ARMOR AT WAR SERIES

PANZER VOR! 3

German Armor at War 1939-45

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INTRODUCTION

German Panzer Types

Germany's Panzer* came in several main types, each subdivided into various Ausführungen (models). There were six main types of Panzerkampfwagen (armored fighting vehicle) excluding captured or other Panzer not of original German design: the Pz.Kpfw.I, Pz.Kpfw.II, Pz.Kpfw.III, Pz.Kpfw.IV, Pz.Kpfw.V and Pz.Kpfw.VI. The Pz.Kpfw.I and Pz.Kpfw.II were leichte (light) Panzer; the Pz.Kpfw.III, Pz.Kpfw.IV and Pz.Kpfw.V were classed as mittlere (medium) Panzer, while the Pz.Kpfw.VI was a schwerer (heavy) Panzer.

All of these Panzer had several features in common. Their main armament was in a fully-rotating turret, they were of welded construction, their engines were located at the vehicle's stern and the transmission/final drive was located at the bow. Two types of suspension systems were commonly used: leaf springs (with and without separate bogie truck units) and torsion bars (sometimes with interleaved or overlapping wheels). The track tensioning idler wheel was located at the stern and the track links were of the "skeleton" all-metal type; they were also "dead" tracks. Critical to their early successes, and often overlooked, is the vital role that radio communications played. In the beginning, all Panzers carried at least a radio receiver; later, all carried a radio transmitter as well as the receiver.

Another characteristic of German Panzer was that almost none of a particular type was alike. This was a result of constant changes in the designs as well as the way in which German heavy industry was operated during the war. And, of course, official and unofficial post-manufacture field modifications confused the issue of identification of specific models further. The difficulty in identifying specific Ausführungen (models) is especially prevalent in the case of the Pz.Kpfw.III and Pz.Kpfw.IV; change was constant and parts (or features) destined for one model would quite often wind up on another model on the same production line, either before it was officially introduced, or after it was officially supplanted.

(* Author's note: There is no plural form for the word "Panzer"; therefore it will be seen throughout this book without an "s" at the end, where it would seem to be applicable.)

Panzerkampfwagen I (Sd.Kfz.101)

The first Panzer, this small vehicle was never intended to be used in battle, yet it could still be seen in the initial stages of Operation Barbarossa, the invasion of the Soviet Union in June of 1941. It was conceived as a means to mechanize the Heer (Army) and to test the organizational and tactical concepts that would later evolve into the astonishing "Blitzkrieg" form of mechanized combined-arms warfare. Additionally, it was a relatively inexpensive and easily-produced AFV (about 1,500 manufactured), providing "practice" for Germany's post-Treaty of Versailles armaments industry. This leichter Panzer (light tank) weighed between 5- and 6-metric tons (Ausf.A and Ausf.B) and was armed with a pair of 7.92mm MG13s. This contrasted with the absurdly overweight (21-metric tons) Ausf.F, which was pitifully-armed with a pair of MG34s and had an armor basis of 80mm. Only 30 of this later "dead-end" Panzer were produced. Variations of the Pz.Kpfw.I included:

- Munitionsschlepper (Sd.Kfz.111); ammunition carrier.
- Kleiner Panzerbefehlswagen I Ausf.A and Ausf.B (Sd.Kfz.265); command tank.
- 4.7cm PaK(t) (Sf) auf Panzerkampfwagen I Ausf.B; self-propelled 4.7cm anti-tank gun.
- 15cm sIG33 (Sf) auf Panzerkampfwagen I Ausf.B; self-propelled 15cm heavy infantry gun.
- Flakpanzer I; self-propelled 2cm anti-aircraft gun.
- Schulfahrzeuge Ausf.A and Ausf.B; driver training vehicle.
- Brückenleger; bridge-layer.
- Instandsetzungskraftwagen; tracked vehicle for maintenance equipment.
- Ladungsleger; demolition charge-layer.
- Ambulance.

When vehicles were converted to other uses, redundant turrets were issued for use in fixed mounts on fortifications.

Panzerkampfwagen II (Sd.Kfz.121)

Initially conceived as a light reconnaissance tank for armored formations, this Panzer soldiered on far longer than its designers would have imagined. Its size limited its ability to carry larger weapons in a rotating turret, as well as its ability to carry heavier armor. With an initial armor basis as high as 15mm and a weight of less than 8-metric tons, all versions were armed with a 2cm KwK and 7.92mm MG. Later versions weighed as much as 13-metric tons with a maximum armor thickness of 30mm. Yet, the basic design still proved adaptable enough that self-propelled guns on its chassis would see service until the war's end. This Panzer was found in models ranging from the Ausf.a/1, a/2 and a/3, Ausf.b, and Ausf.c; Ausf.A, B, C, D, E, F; neuer Art Ausf.G, H, J, M and Ausf.L. Almost 2,000 were produced. Variations included:

- Panzerkampfwagen II Flamm Ausf.A and Ausf.B (Sd.Kfz.122); flame-thrower tank based on Ausf.D and E chassis, respectively.
- Leichte Feldhaubitze 18/2 auf Fahrgestell Panzerkampfwagen II (Sd.Kfz.124); self-propelled 10.5cm light field howitzer, "Wespe" and un-armed ammunition carrier.
- Panzerjäger II für 7.5cm PaK40/2 (Sd.Kfz.131); self-propelled 7.5cm anti-tank gun based on the Ausf.F, "Marder II".
- Panzerjäger II für 7.62cm PaK36 (Sd.Kfz.132); self-propelled 7.62cm anti-tank gun based on the Ausf.D and E, "Marder II".

- 15cm sIG33 auf Fahrgestell Panzerkampfwagen II; self-propelled 15cm heavy infantry gun.
- Pz.Kpfw.II mit Schwimmkörper; amphibious tank.
- Brückenleger; bridge-layer.
- Munitionsschlepper; ammunition carrier.
- Pionier-Kampfwagen; engineer equipment tank.
- Ambulance.

When vehicles were converted to other uses, redundant turrets were issued for use in fixed mounts on fortifications.

Panzerkampfwagen III (Sd.Kfz.141)

This Panzer was the first true modern "Main Battle Tank" and was one of the first AFVs to be designed specifically to do battle with enemy tanks. It also pioneered the use of a five-man crew (commander, gunner and loader in the turret; driver and radio operator in the hull), all of whom had specific functions. Another innovation was the torsion bar suspension; this was one of the world's first production-standard tanks to incorporate this system. The first production version (Ausf.A) had 15mm armor, weighed less than 16-metric tons and mounted a 3.7cm KwK L/46.5 main gun. The final version (Ausf.N) had up to 70mm of armor, mounted a 7.5cm KwK37 L/24 main gun and weighed 23-metric tons. In between, the Pz.Kpfw.III was also armed with a 5cm KwK L42, then a more powerful L/60. It was produced in models ranging from Ausf.A through Ausf.J, and Ausf.L through Ausf.N; almost 6,200 were manufactured. Other major variations included purpose-built Panzerbefehlswagen (command tanks) Ausf.D1, E, H (Sd.Kfz.266, 267 and 268), and Ausf.K, as well as "off-the-shelf" versions based on the Pz.Kpfw.III Ausf.J. Variations included:

- Panzerkampfwagen III (Fl) (Sd.Kfz.141/3); flame-throwing tank.
- Artillerie-Panzerbeobachtungswagen (Sd.Kfz.143); artillery observation post tank.
- Tauchpanzer; submersible tank.
- Bergepanzer III; tank recovery vehicle.
- Pionierpanzer III; engineer equipment carrier.
- Munitionspanzer III; ammunition carrier.

The most famous variation was the Sturmgeschütz III (Sd.Kfz.142) assault gun, which itself was produced in models ranging from Ausf.A through Ausf.F, Ausf.F/8 and Ausf.G. With over 9,200 produced, the StuG.III series was the second largest group of AFVs produced by Germany during World War Two, following the Sd.Kfz.251-series. Variations included:

- Sturmhaubitze III (Sd.Kfz.142/2); 10.5cm assault howitzer.
- Sturminfanteriegeschütz 33B; 15cm heavy infantry gun.

When vehicles were converted to other uses, redundant turrets were issued for use in fixed mounts on fortifications, as well as for use on armored trains.

Panzerkampfwagen IV (Sd.Kfz.161)

This workhorse of the Panzertruppen (armored troops) has the distinction of being the only German Panzer to be continually produced (over 8,500) from before the war's beginning until its end. A basically sound design, it evolved to meet the changing threat on the battlefield due to its ability to accept heavier armor and a longer, high-velocity main gun. It was initially armed with a 7.5cm KwK37 L/24, possessed a 15mm armor basis and weighed a bit more than 18-metric tons (Ausf.A). Its final version (Ausf.J) mounted a 7.5cm KwK40 L/48 main gun, had armor as thick as 80mm and weighed 25-metric tons. Much like the US M4 medium tank series, the basic chassis was adapted to carry a large variety of special-purpose weapons. It appeared in models ranging from Ausf.A through Ausf.H (including the interim designation Ausf.F1 and F2), and the Ausf.J. Variations included:

- Flakpanzer "Möbelwagen" (Sd.Kfz.161/3); self-propelled 3.7cm anti-aircraft tank.
- Flakpanzer "Wirbelwind" (Sd.Kfz.161/4); self-propelled quadruple 2cm anti-aircraft tank.
- Panzer IV L/48 (Sd.Kfz.162); 7.5cm L/48 tank destroyer.
- Panzer IV L/70(A) and L/70(V) (Sd.Kfz.162/1); 7.5cm L/70 tank destroyer.
- 8.8cm PaK43/1 auf Geschützwagen III/IV (Sf) "Nashorn" (Sd.Kfz.164); self-propelled 8.8cm anti-tank gun.
- 15cm s.FH 18/1 auf Geschützwagen III/IV (Sf) "Hummel" (Sd.Kfz.165); self-propelled 15cm heavy field howitzer, and un-armed ammunition carrier.
- Sturmpanzer IV (Sd.Kfz.166); 15cm assault howitzer.
- Sturmgeschütz IV (Sd.Kfz.167); 7.5cm L/48 assault gun.
- Panzerbefehlswagen; command tank.
- Panzerbeobachtungswagen; artillery observation post tank.
- Tauchpanzer IV; submersible tank.
- Brückenleger IV; bridge-layer.
- Infanterie Sturmsteg auf Fahrgestell Panzerkampfwagen IV; infantry assault bridge carrier.
- Munitionspanzer für Karlgerät; ammunition carrier for the 60cm Mörser "Karl".
- Bergepanzer IV; tank recovery vehicle.

Many prototypes were built on the Pz.Kpfw.IV chassis, some of which saw service in extremely limited numbers, such as the Flakpanzer "Kugelblitz" and "Ostwind". When vehicles were converted to other uses, redundant turrets were issued for use in fixed mounts on fortifications, as well as for use on armored trains.

Panzerkampfwagen V (Sd.Kfz.171)

Also known as the "Panther", this was probably the best mittlerer Panzer (medium tank) fielded by Germany during the war. Although Germany produced Panzer prototypes in this weight class (which eventually evolved into the Tiger I), the Panther was a direct response to the appearance of the revolutionary Soviet T-34 medium tank. In particular it adapted the use of sloped armor (up to 110mm thick on the gun mantle) for added protection, a long, high-velocity 7.5cm

KwK42 L/70 main gun for superior armor-piercing capabilities, and a wide-track torsion bar suspension system for enhanced mobility. Its weight of approximately 45.5-metric tons was at the limit of the ability of its power plant and drive train, but the design proved, in time, to be reliable. Almost 6,000 were manufactured and eventually the Panther would constitute half of a Panzer-Division's establishment. The Panther came in three models, Ausf.D, Ausf.A and Ausf.G (produced in that order), while a final model (Ausf.F) was beginning to be produced at war's end. Variations included:

- "Jagdpanther" (Sd.Kfz.173); 8.8cm tank destroyer; seen in two sub-variants, Ausf.G1 and Ausf.G2.
- "Bergepanther" (Sd.Kfz.179); tank recovery vehicle.
- Panzerbefehlswagen mit 7.5cm KwK42 L/70; command tank.

Specially-designed static gun emplacements were based around a Panther turret.

Panzerkampfwagen VI Tiger I (Sd.Kfz.181)

What eventually emerged as the Tiger I began its design gestation prior to the war's beginning, but did not hit its stride until after the French Campaign of 1940, when British and French heavy tanks were first encountered on the battlefield. The premiere German schwerer Panzer (heavy tank) achieved a fearsome reputation during the war and has become a legend amongst historians and enthusiasts ever since. Mounting the powerful 8.8cm KwK36 L/56 main gun and sporting up to 145mm of armor, it could dominate the battlefield when properly employed. A complicated and expensive vehicle to produce and maintain, less than 1,400 of these 57-metric ton giants were manufactured. The first version known as the Tiger I or Tiger Ausf.E, was constantly modified during its production run, but was not differentiated by model designations. The only major variation was the so-called "Sturmtiger" (assault Tiger) which mounted a 38cm RW61 Mörser. Other Tiger Is were built as Panzerbefehlswagen (command tanks).

In a parallel program, the Porsche firm also designed a schwerer Panzer, the Tiger (P), which failed the design competition. However, approximately 100 chassis were produced by Krupp and 91 of these were converted into heavily armored tank destroyers, Panzerjäger Tiger (P) (8.8cm PaK43/2 L/71) (Sd.Kfz.184). Three chassis were converted into Bergepanzer VI (tank recovery vehicles). At least one prototype chassis with an 8.8cm KwK36 L/56 in a rotating turret was converted into a Panzerbefehlswagen VI (P) (command tank), and issued for service on the Ostfront.

Panzerkampfwagen VI Tiger II (Sd.Kfz.182)

An improved version of the Tiger I, this schwerer Panzer (heavy tank) was up-graded with heavier, sloped armor (up to 180mm) and a longer 8.8cm KwK43 L/71 high-velocity gun. Also known as the Tiger Ausf.B, the Tiger II was produced with two major turret variations (both designed and built by Krupp; there is no such thing as a "Porsche turret"), but there were no separate model designations for them. Although it mounted (arguably) the most powerful armament in a fully-rotating turret to see service during the war, its low production figures (less than 500 built), high weight (almost 70-metric tons) and relative mechanical unreliability prevented it from having a decisive impact in the field. Tiger IIs were also built as Panzerbefehlswagen (command tanks).

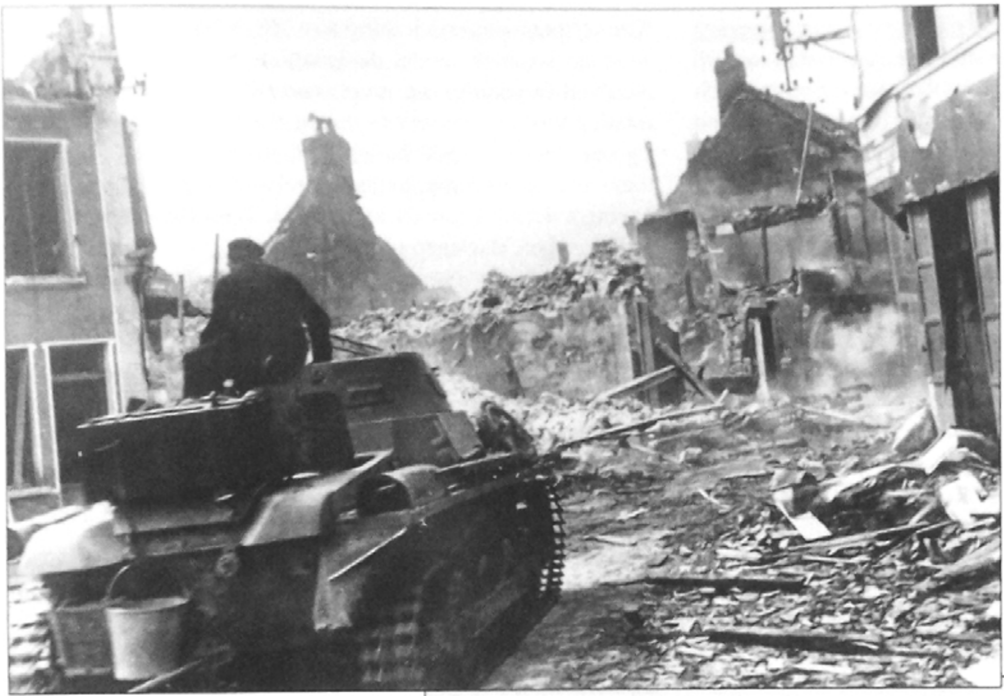
The only major variation of the Tiger II was the gigantic "Jagdtiger" (Sd.Kfz.186), which boasted a 12.8cm PaK44 L/55 (also designated 12.8cm PaK80) in a limited-traverse casemate mount on a stretched chassis. It too was handicapped by its limited numbers (approximately 85 built), excessive weight (over 75-metric tons) and lack of mechanical reliability. While most of these were built with torsion bar suspension, several were fitted with Porsche volute spring suspension units. Records also indicate that a very small number of these tank destroyers were armed with the 8.8cm L/71 main gun.

A Note on Reference Sources

To identify the AFVs, other military vehicles, ordnance, units, weapons and uniforms seen within these pages I have consulted the published/posted works of many, many researchers, authors and artists, notably the following: Stephen Andrew, Christoph Awender, Martin Block, David Byrden, Peter Chamberlain, Tomáš Chorý, Duncan Crow, Pascal Danjou, Hilary Doyle, Vladimir Francev, Ian Hogg, Tomáš Jakl, Thomas Jentz, Charles Kliment, Franz Kurowski, Kaloyan Matev, Karlheinz Münch, Werner Regenberg, Wolfgang Schneider, Walter Spielberger, Nigel Thomas, Brigadier H.B.C Watkins, John Weeks, Gordon Williamson, Martin Windrow, and as usual, Steve Zaloga.

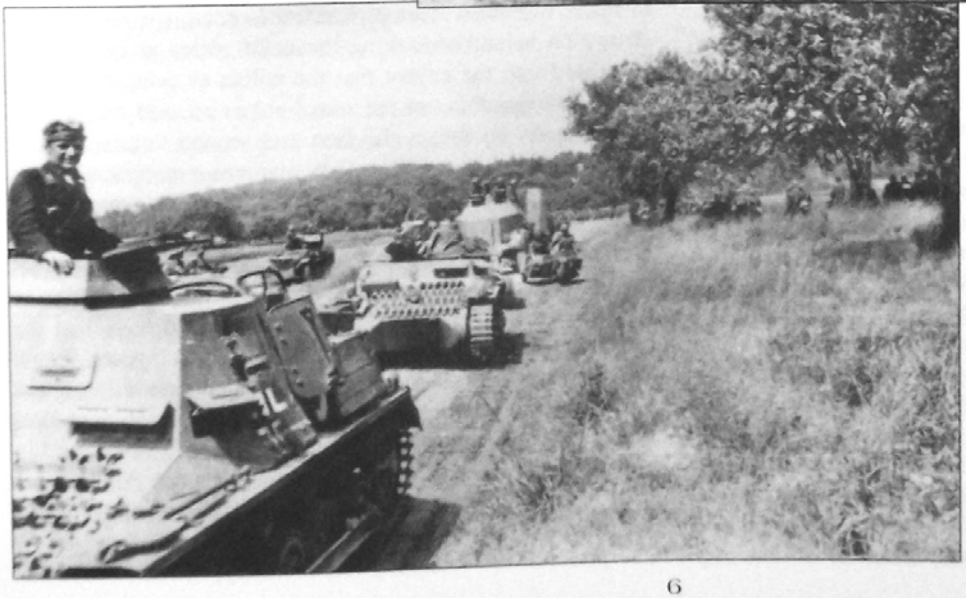
Acknowledgements

As always with a book of this type, one can never claim to have "done it" on one's own. First and foremost, I would like to thank this book's artist, Laurent Lecocq, for his extreme efforts on behalf of making the color plates as accurate as possible (with the caveat that the colors as printed here are only approximations of the actual colors as used on German Panzers). As he did in the first and second volume in this series, Laurent cheerfully made numerous modifications as we worked towards our common goal. Thank you once again, Laurent. The authors whose names and whose work is mentioned above deserve our thanks for their original research, sometimes carried out during decades of devotion to the subject. I am merely fortunate enough to have had the foresight to collect their books for nearly 45 years. Ralph Zwilling helped "keep me honest" by reviewing and correcting the spelling of the German-language technical terms used throughout this book. And finally, the unceasing efforts of Mr. Freddie Leung and the Concord Publications team to uncover fresh and interesting new photographs for this series must be mentioned. Any errors of fact or of interpretation are solely my responsibility.

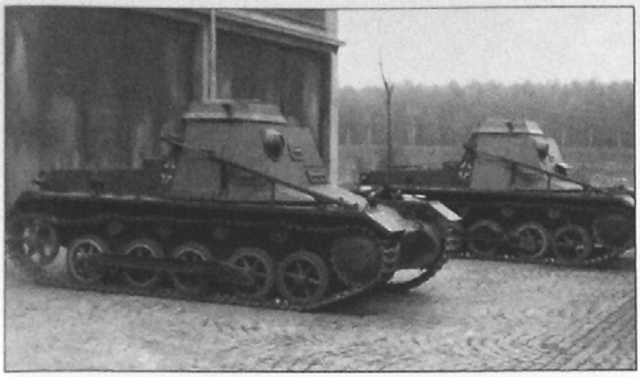


This heavily stowed and somewhat battered Pz.Kpfw.I Ausf.A makes its way through a devastated French town, some time during the 1940 campaign. The configuration of the suspension system with four roadwheels and trailing idler, as well as the position of the exhaust pipes on the fender identify this as an Ausf.A. Likewise, the layout of the engine deck with the retrofitted armored cowls over the air intake and exhaust vents are also an identifying feature of this Ausführung (model). Note the improvised wood stowage locker attached to the engine deck as well as the opened engine deck access hatch lids leaning back against it. A spare road wheel is stored on the front of the superstructure and a bucket is hanging at the hull rear; the jack block is stowed in the standard position on the lower rear hull plate, while it would appear that something is attached to the Panzer's tow point.

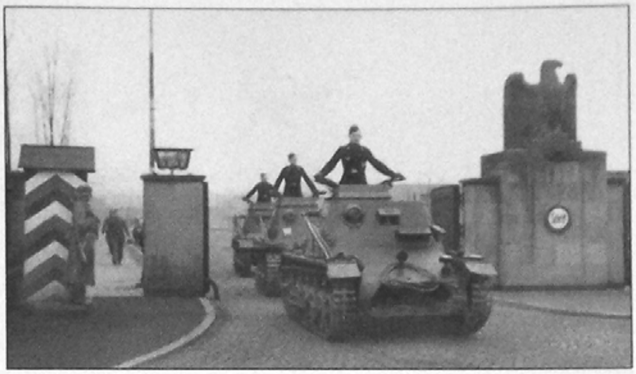
A group of Pz.Jg.I Ausf.Bs moves in a tactical column formation with plenty of room between each tank destroyer. From this distance, details are difficult to discern, but the exhaust muffler and shields can be readily identified, as can two crewmen perched behind the gun. This Panzerjäger was armed with a 4.7cm PaK36(t) anti-tank gun (manufactured by Škoda of Czechoslovakia as the 47mm kanón PUV vz.36 L/34.4), which could penetrate the armor of all but the heaviest Soviet tanks of the era (T-34 and KV); it was effective against the British "Matilda" Infantry Tank as well as the French Char B heavy tank. It quickly became obsolete in the vast, open spaces of the Soviet Union.



A kl.Bef.Pz.I Ausf.B leads a column of German AFVs, including a Munitionspanzer I Ausf.B and an armored Sd.Kfz.7 (Gepanzerter 8-ton Zugkraftwagen), towing a modified 8.8cm FlaK18. In the far background is a half-track, probably an Sd.Kfz.10, while a heavy motorcycle combination also moves along the road. German troops shelter in the shade of some trees at right. The kl.Bef.Pz.I Ausf.B sports several sections of spare track (as does the Munitionspanzer I) in an attempt to add protection agains enemy anti-armor weapons. The Sd.Kfz.7 was armored to provide protection for the gun's crew while on the march, while the FlaK18 was modified with special outriggers so the gun could remain stable and be quickl fired while still attached to its limbe wheels. These specially-modifie vehicles belonged to one of three units Panzerjägerabteilung 525, 560 or 605.

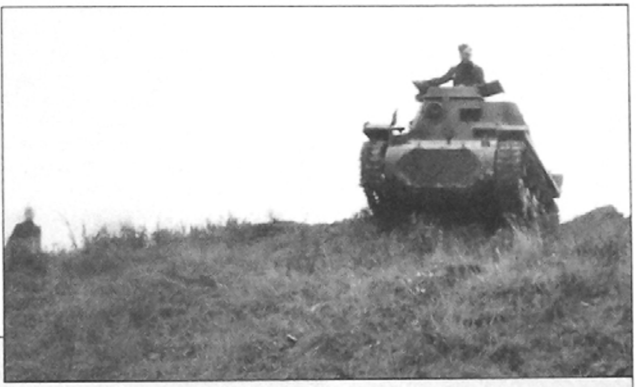


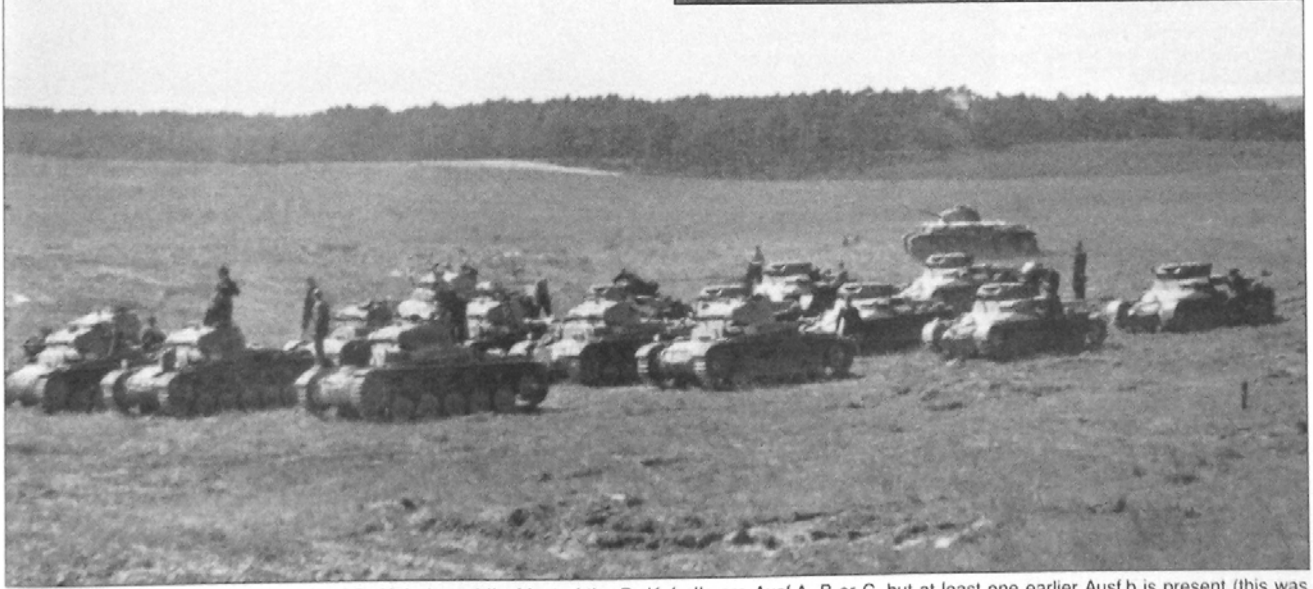
This pair of kl.Bef.Pz.I Ausf.Bs stand ready in front of their storage sheds in anticipation of a training exercise. There is one subtle difference between the two Panzer. Note that the near one has the armor strip on the superstructure side where it meets the fender, while the far one does not. Both have non-standard front mud flaps, which are flat instead of curved as would normally be seen. Both also are equipped with a Notek black-out driving head-lamp, positioned on the glacis plate, instead of the more common position on the port-side fender. The only visible markings are large, white-outline Balkenkreuz national insignia, on the corner facets of the superstructures.



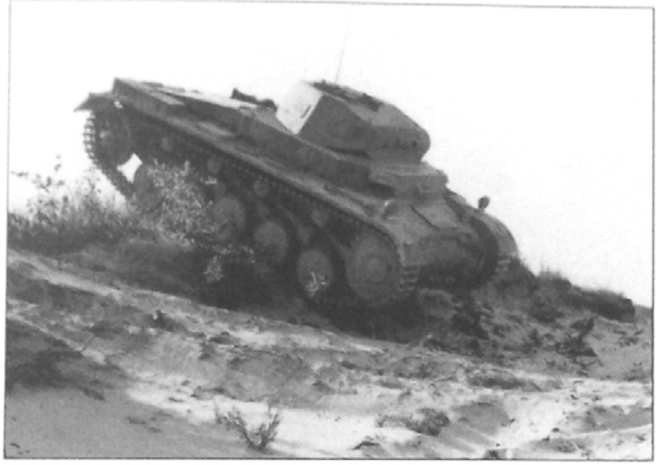
A trio of kl.Bef.Pz.I Ausf.Bs, from the same unit as previously pictured, pass through the main gate of their Kaserne (barracks camp). Note again the position of the Notek black-out driving head-lamp, in a non-standard location on the glacis plate. The first and third Panzer also has the unusual non-standard flat mud flaps, while the second has none at all. All visors are opened for easy viewing by the crew (note the radio operator peering from the first panzer), and the commanders are all riding with their "heads out" of their cupolas. None of these Panzer have their MG34s mounted, while the second one has a geometric design (a white square) on its superstructure front plate, whose purpose is unknown.

The final photograph in this series shows another kl.Bef.Pz.I Ausf.B, from the same unit as previously pictured. It has the non-standard flat mud flaps (this time in the folded-back position) as well as the Notek black-out driving head-lamp mounted on the glacis plate. Note also that the rear mud flaps are also folded up, probably in an attempt to limit damage. Conspicuously, the commanders of all of these Panzer are not wearing any head-phones or throat microphones in these photographs, indicating that communications with their drivers as well as other Panzer are not a priority.

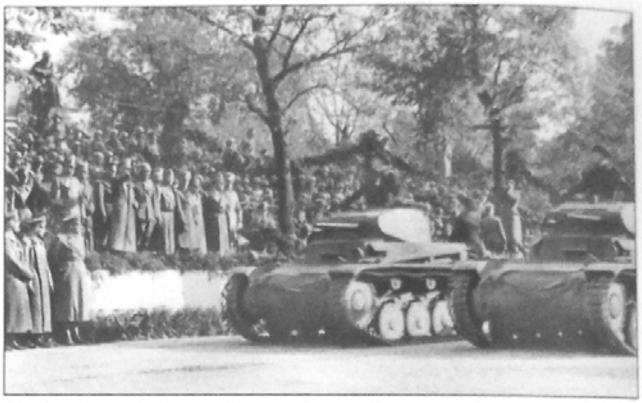




This photo depicts an interesting mix of Pz.Kpfw.Is and IIs. Most of the Pz.Kpfw.IIs are Ausf.A, B or C, but at least one earlier Ausf.b is present (this was designated with a lower-case letter); note the smaller road wheels and girder on the suspension system of the second Pz.Kpfw.II in the first line. Also present are Pz.Kpfw.I Ausf.Bs. This group most probably represents an entire Kompanie (company) of these leichte Panzer (light tanks). German Panzerabteilungen (tank battalions) consisted of mixed Kompanien (companies) of light and medium Panzer, organized under various "Kriegsstärkenachweisungen" (tables of organization and equipment), abbreviated as K.St.N. This particular photo indicates a unit organized as per K.St.N.1171, from March of 1939. Such a leichte Kompanie (light company) would consist of a kl.Pz.Bef.Wg., a Pz.Kpfw.II and a pair of Pz.Kpfw.Is in the Kompanietrupp (company headquarters) and four Züge (platoons), three of which contained three Pz.Kpfw.IIs and two Pz.Kpfw.Is. The 4.Zug (platoon) contained five Pz.Kpfw.IIs.

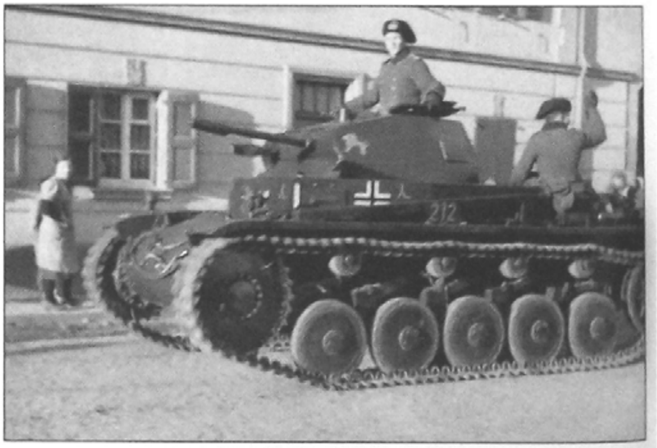


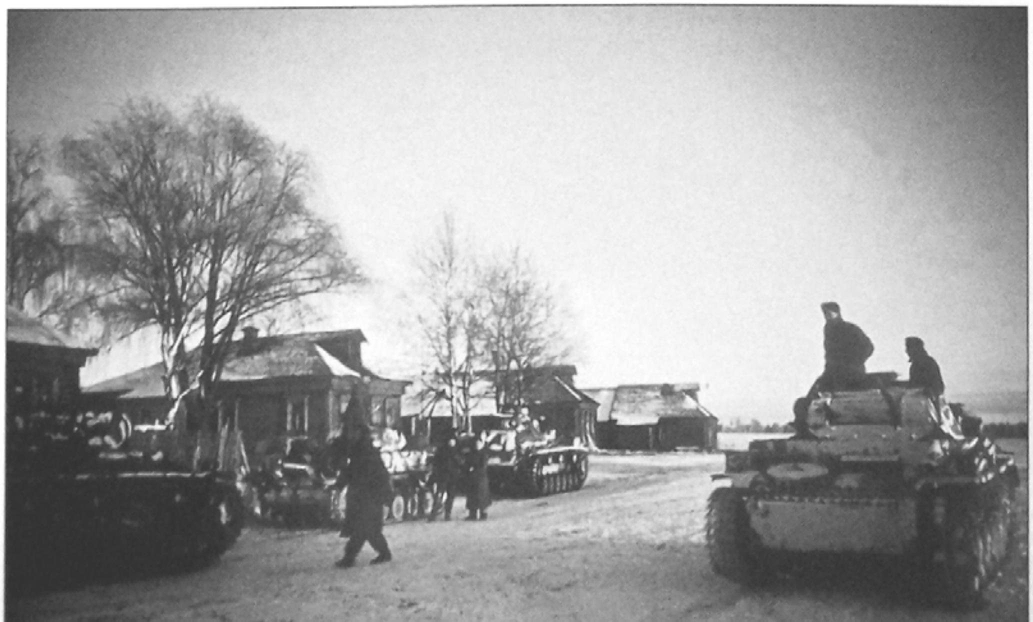
This Pz.Kpfw.II (Ausf.A, B or C) crosses a sandy spot while on a training exercise. Note that it is not fitted with either of its weapons (7.92mm MG34 or 2cm KwK30), which strongly indicates that this is not a combat-related photograph. This photograph allows several of the main identifying features of this early Panzer to be easily discerned. They are: five road-wheels mounted on leaf springs, rounded bow plate and turret with flat, split hatch lids.



A pair of Pz.Kpfw.IIs (Ausf.A, B or C) pass in review before a large group of German troops and Nazi dignitaries, including Adolf Hitler (with arm raised in salute). These Panzer are fully armed, showing the relative positions of the 7.92mm MG34 and 2cm KwK30 weapons. While the drivers of each Panzer perform their primary duties, the commanders are perched in the turret, with the radio operators sitting on the rear deck (where there was an access hatch and lid for the fighting compartment). These Panzer again show their primary identifying features: five road-wheels mounted on leaf springs, rounded bow plate and turret with flat, split hatch lids.

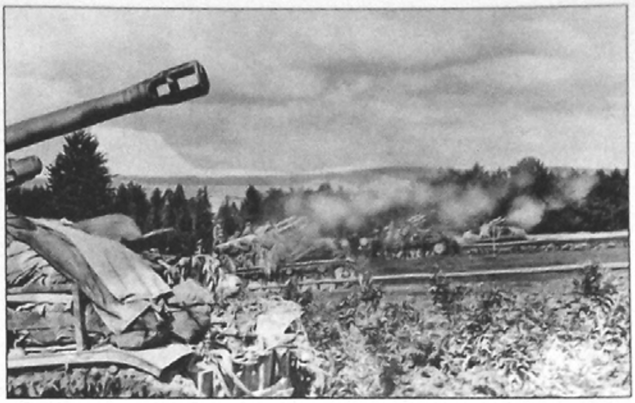
This excellent image depicts a Pz.Kpfw.II (Ausf.A, B or C) from 8. Panzerbrigade, 5. Panzerdivision, Germany, early 1940. This Panzer carries the official insignia of the division, an inverted "Y" with a single dot in yellow paint on the superstructure sides and on the driver's plate. It carries the Tac numbers, 212, of Panzer number 2, 1. Zug, 2. Kompanie on rhomboid plates attached to the fenders on either side, as well as what is probably the insignia of Panzerregiment 15, apparently a lion (although it could easily be confused with a European Bison, another known regimental insignia from Pz.Rgt.7, 10.Pz.Div.), on the turret sides in yellow. Panzer from this division's other regiment, Pz.Rgt.31, wore the famous "Devil's Head" on the sides of their turrets (see the previous volumes of Panzer Vor! for examples). There is a black/white Balkenkreuz national insignia on the superstructure sides, just aft of the view-port. Although of very good quality, the photo illustrates the difficulty in discerning weather the Panzer is painted in a monotone Dunkelgrau RAL 7021, or the two-tone system of Dunkelgrau Nr.46 over-sprayed with Dunkelbraun Nr.45 in patches, so it covered roughly 1/3 of the item being painted. However it is this author's opinion, based upon the uniforms, markings and vehicle fittings that this Panzer is indeed painted in the two-tone scheme.

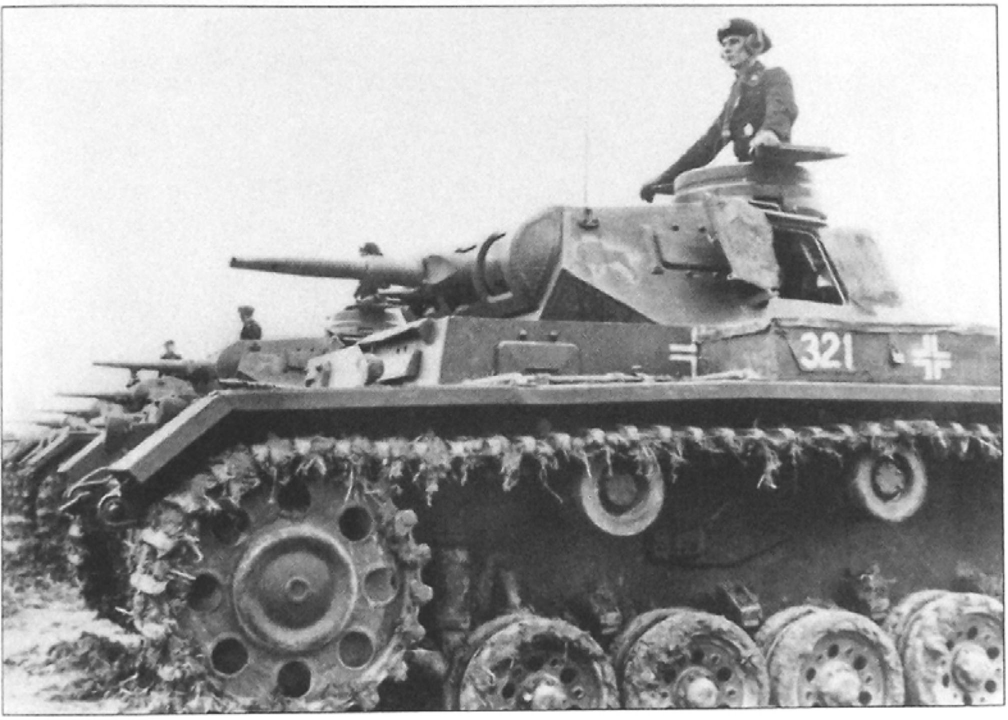




This Pz.Kpfw.II (Ausf.A, B or C) would appear to have most, if not all, of the features retro-fitted to these Panzer following experience in the Polish Campaign of 1939. These features include an additional 20mm of armor on the turret front (note how the side-light causes the mounting bolts to become prominent) and superstructure front and sides. The hull's rounded bow plate has also been covered with a squared-off series of 20mm plates, which provided spaced-armor protection. It would also appear that the circular commander's cupola with periscopes and round hatch lid is also fitted. This photograph is from a color original, which was part of a series taken of the 11. Panzerdivision in the Soviet Union during the winter of 1941-42. See the previous volume in

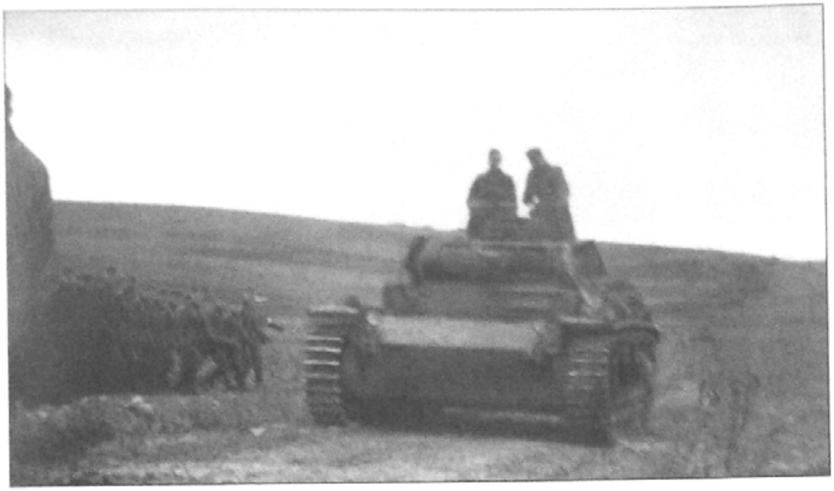
A Batterie (battery) of "Wespen" (Wasps), mounting the 10.5cm le.FH18/2 performs a fire mission. Note how the self-propelled guns are draped with foliage as well as stowage, all of which somewhat mitigates their very exposed positions. Also known as Geschützwagen II für le.FH18/2 (Sf.) (Sd.Kfz.124), this vehicle was produced using the standard divisional light artillery piece, the 10.5cm le.FH18, mated to a lengthened chassis based on Pz.Kpfw.II components (engine, transmission and suspension system). It first saw service in 1943 during the mammoth armored clash around Kursk and continued in service until the war's end, with the Panzerartillerieregimenter (armored artillery regiments) of Heeres (Army) and SS Panzerdivisionen (armored divisions).



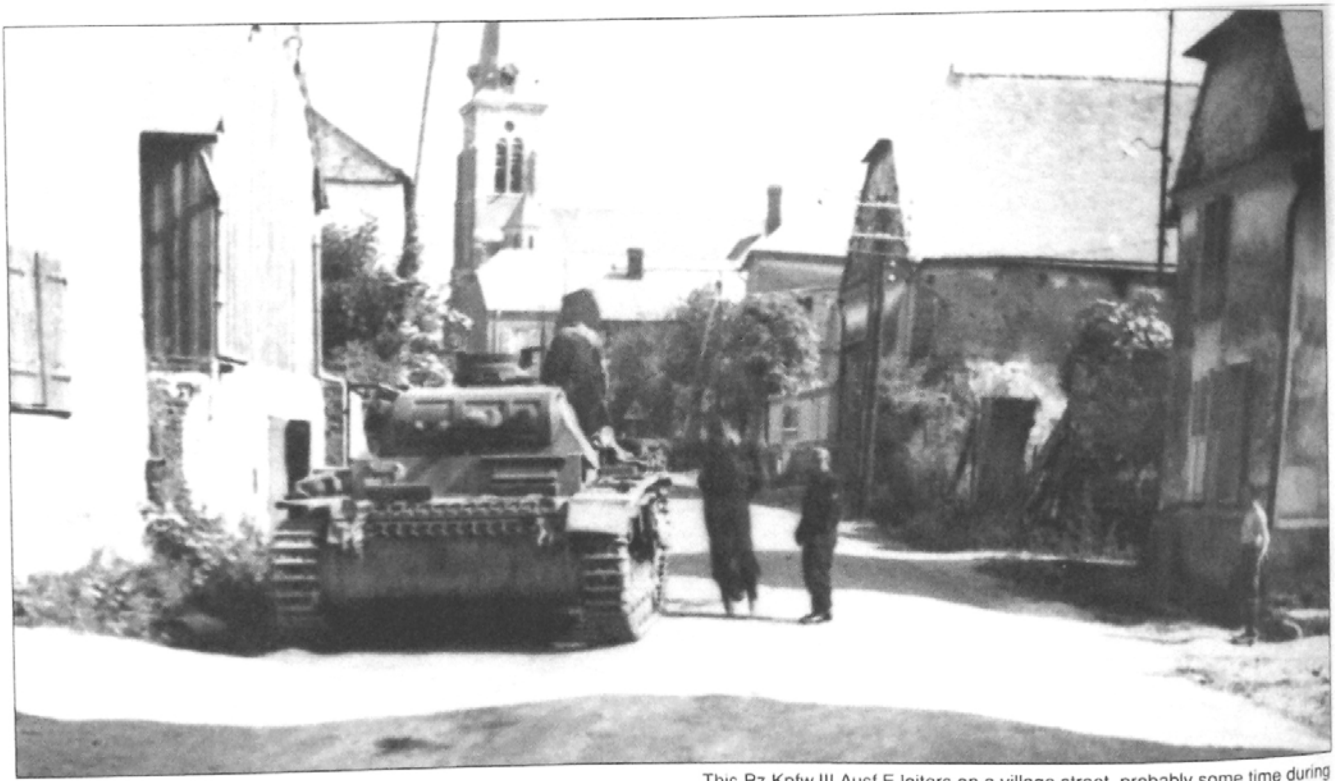


This Pz.Kpfw.III Ausf.E has some interesting markings, including the European Bison of Panzerregiment 7, 10. Panzerdivision, applied by spraying white paint around a stencil. Note also the two white-outline Balkenkreuz national insignia, one on the superstructure side plate, the other on a non-standard tool box on the fender. There is also a white Tac number for the regiment's I. Abteilung, 3. Kompanie, 2. Zug, first Panzer, on a rhomboid plate, attached to the tool box. Other details of interest are the two pieces of cloth affixed to the interiors of the turret-side hatch lids and the configuration of the fold point for the front mud flaps. These Panzer are identified as Ausf.Es by the cupola style, and split hatch lids on the turret side, as well as the MG ball mount on the superstructure front plate. The two turret items were newly introduced with this model.

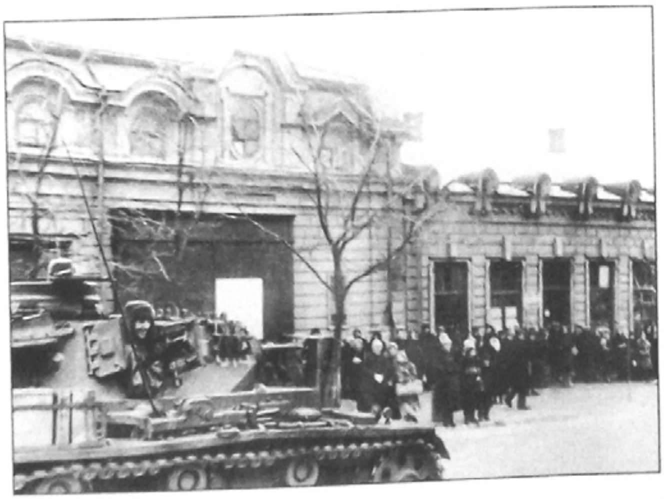
Although difficult to determine at this distance, this is probably a Pz.Kpfw.III Ausf.E as can be seen by the MG ball mount style on the superstructure front plate and the split hatch lids on the turret sides. It lacks the brake cooling air intake cowls introduced later on the similar-appearing Ausf.F. It would appear that the Panzer at right has nosed itself into a ditch at the base of the small hill and that a recovery operation is just getting under way.



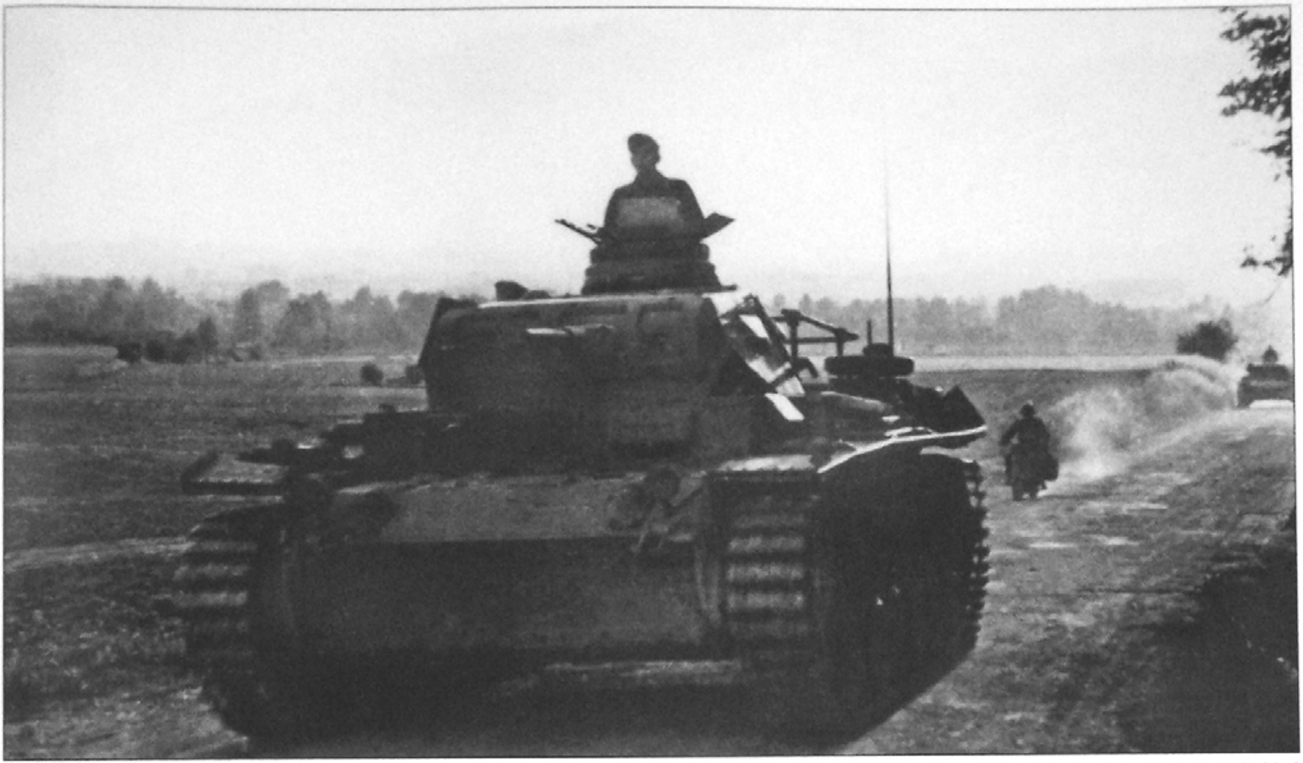
Another Pz.Kpfw.III Ausf.E passes a group of soldiers as it heads up a muddy incline. Again, it can be identified as an Ausf.E by the cupola style and split hatch lids on the turret, as well as the MG ball mount on the superstructure front plate. Note also how the conventional head-lamps (without black-out slit covers in place) are mounted above the tow brackets on the glacis plates. It also lacks the brake cooling air intake cowls introduced later on the similar-appearing Ausf.F.



This Pz.Kpfw.III Ausf.E loiters on a village street, probably some time during the French Campaign of 1940. It exhibits typical features of its model, namely the cupola style and split hatch doors on the turret sides, and the MG ball mount on the superstructure front plate. It also carries a length of spare track on the glacis plate; note one of the transmission access hatch lids leaning open against it. Another identifying tell-tale is the fact that the spare tracks spread almost from head-lamp to head-lamp; there are no brake cooling air intake cowls next to the lamps. The figure to the right of the Panzer is probably a crew member who has jumped off of the vehicle as the photographer tripped the shutter on his camera; a relatively slow shutter speed would result in such a blurry image of a person in motion.

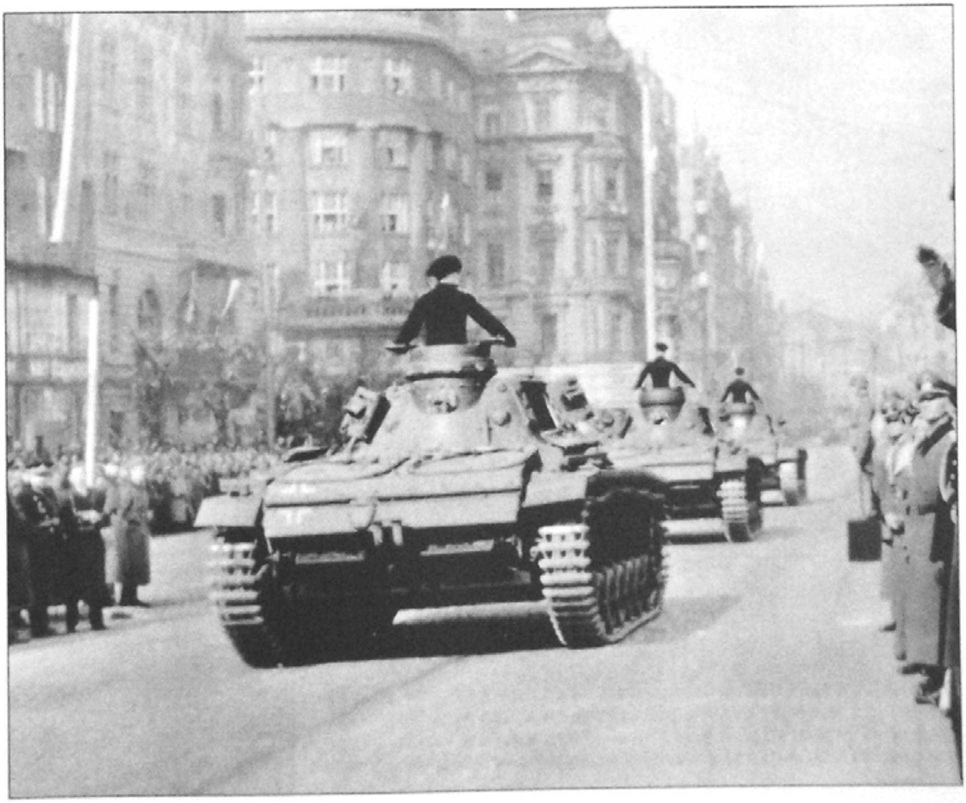


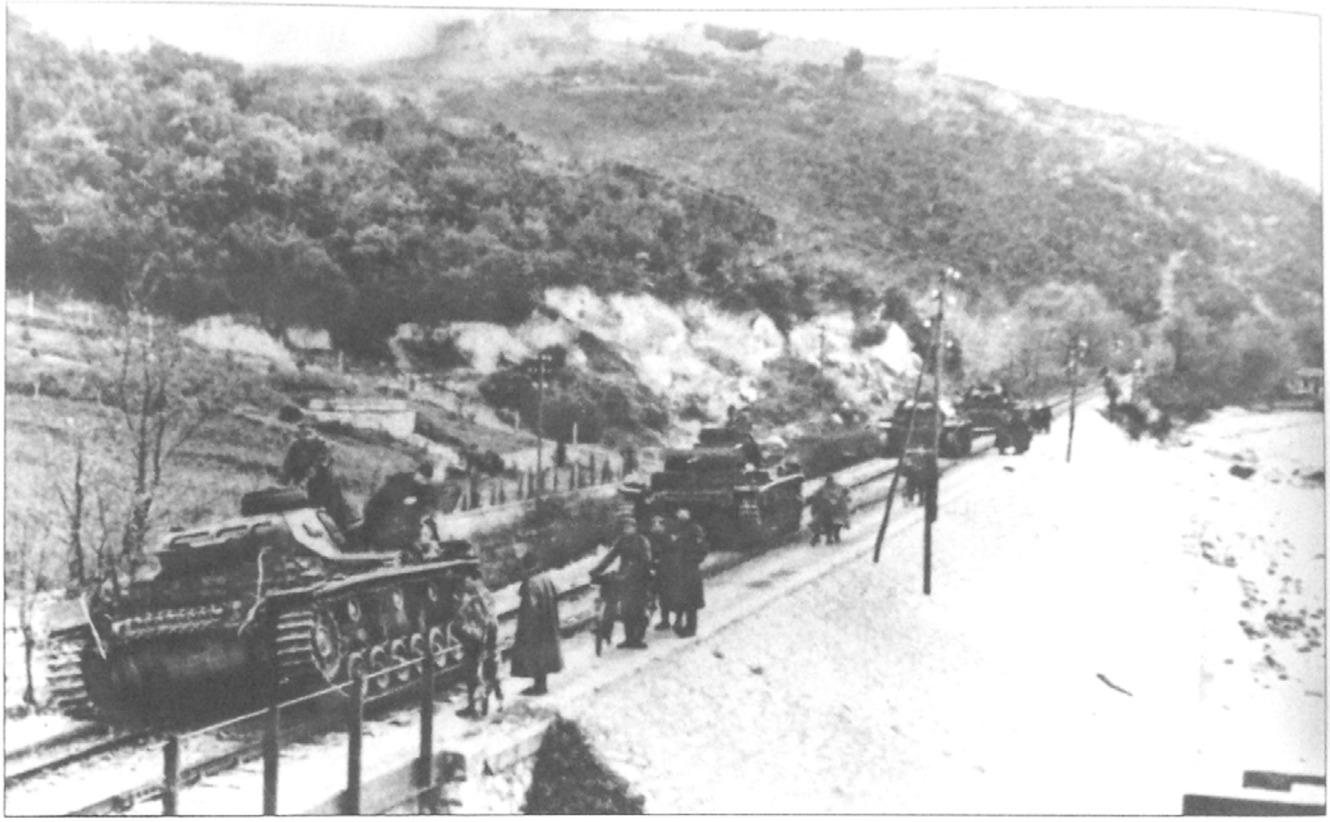
A Pz.Kpfw.III parades along a city's main street, probably on the Ostfront during the winter of 1941/42. The commander's cupola as well as the 3.7cm KwK main gun identifies this as an Ausf.E (or possibly an early Ausf.F). Note the Tac numbers (probably 614, in white) on the turret side, just forward of the opened side access hatch doors, partially covered by a length of spare track, which itself is stored on the front of the turret roof. Note the improvised storage rack on the fender, just aft of the base for the pivoting rod antenna.



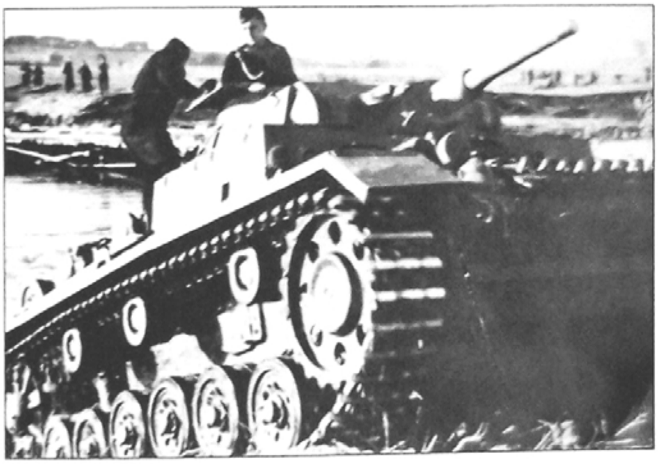
The commander of this Pz.Bef.Wg.III Ausf.E consults his map while halted along a road. A second Panzer is also "tactically" parked some distance behind in order to minimize damage should the enemy fire on the road, while a motorcycle messenger speeds along raising a small cloud of dust. This vehicle is identified as a Befehlspanzer by the configuration of the gun mantle (dummy 3.7cm Kwk gun tube and single dummy 7.92mm MG, as well as a single, working MG34 in a ball mount), the Rahmenantenne (frame antenna) on the engine deck, and the configuration of the superstructure front plate. Note also that there are two folding rod antennae, one on each side of the superstructure, with the port-side one in the raised position. The base of the starboard-side antenna can be seen at the corner of the forward superstructure plate. The armored cowls for the brake cooling vents were also introduced on this version of the Ausf.E chassis, and were standard on the Ausf.F onwards.

A group of Pz.Kpfw.III Ausf.F Tauchpanzer (submersible tanks) are seen participating in a parade, probably prior to Operation Barbarossa. The Tauchpanzer conversions, made from July to October 1940, were initially carried out in anticipation of Operation Sea Lion (the proposed invasion of the United Kingdom), which never took place. They were then modified again for deep-fording. Their first combat use occurred with Guderian's Panzergruppe 2, in the 18. Panzerdivision's thrust across the Bug River on June 22, 1941 as part of the drive by Heeresgruppe Mitte (Army Group Center) towards Moscow. Modifications specific to this Panzer for its underwater operation that are visible in this photograph include: extensions for the exhaust pipes and doors to seal the area under the superstructure overhang seen on the rear of the vehicle, and boxed-in engine cooling air intake cowls with water-tight lids, seen just to the left and right of the engine deck, next to the stowed tow cables. Other external items, not visible here, would include frames around the front of the turret as well as around the bow MG34 mount, to which rubberized canvas shrouds would be fixed.



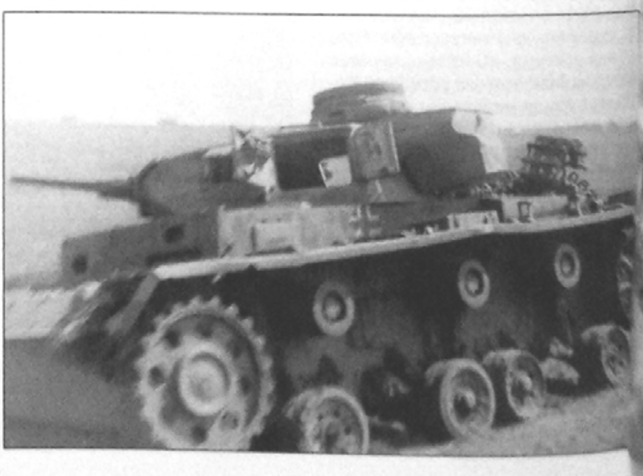


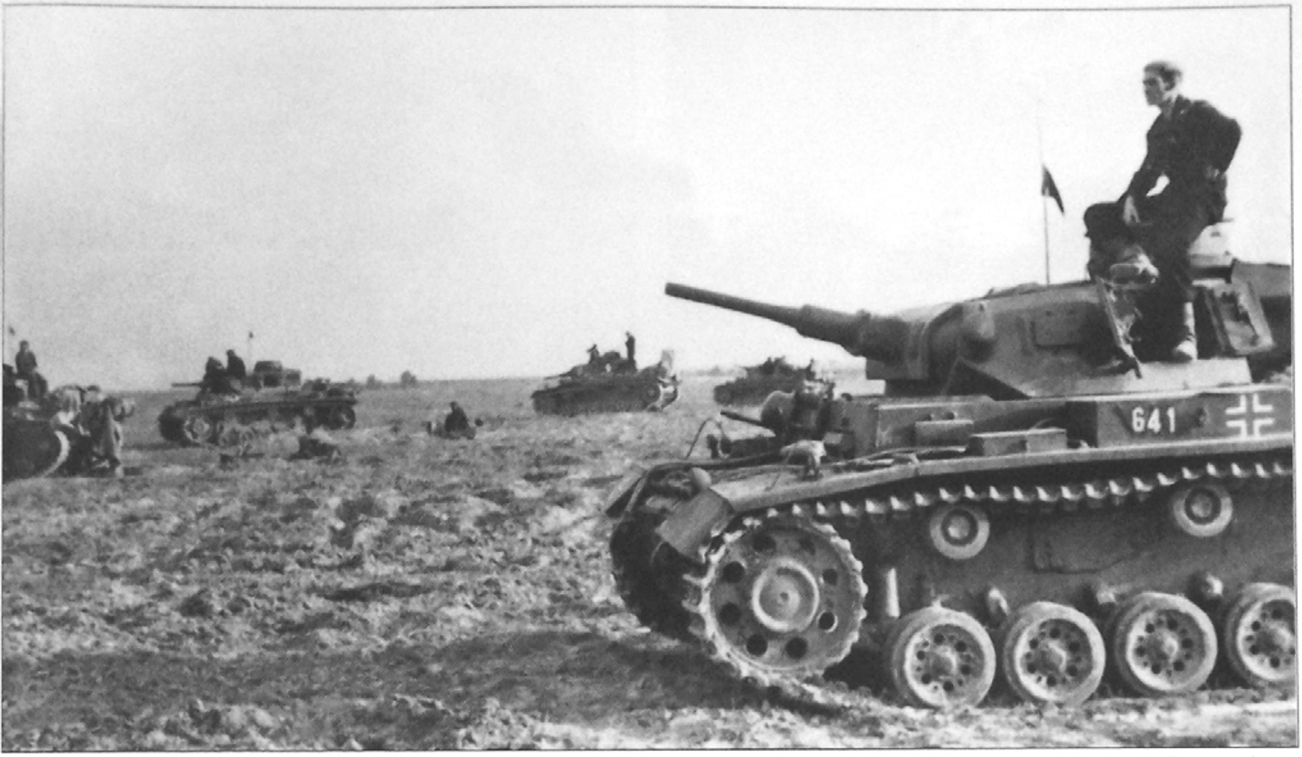
In a scene reminiscent operations in the Balkans, four Pz.Kpfw.III Ausf.Fs make their way through mountainous terrain using a local railroad track system. The newly-introduced brake cooling air intake cowls are apparent on the glacis, either side of the spare tracks. The crews have probably halted to do a mandated maintenance check of their Panzer, something which was done with some frequency during the march. Note how the first Panzer has run one side of its suspension system up onto a rail section, in contrast to the rest, who are straddling the rails for easer movement.



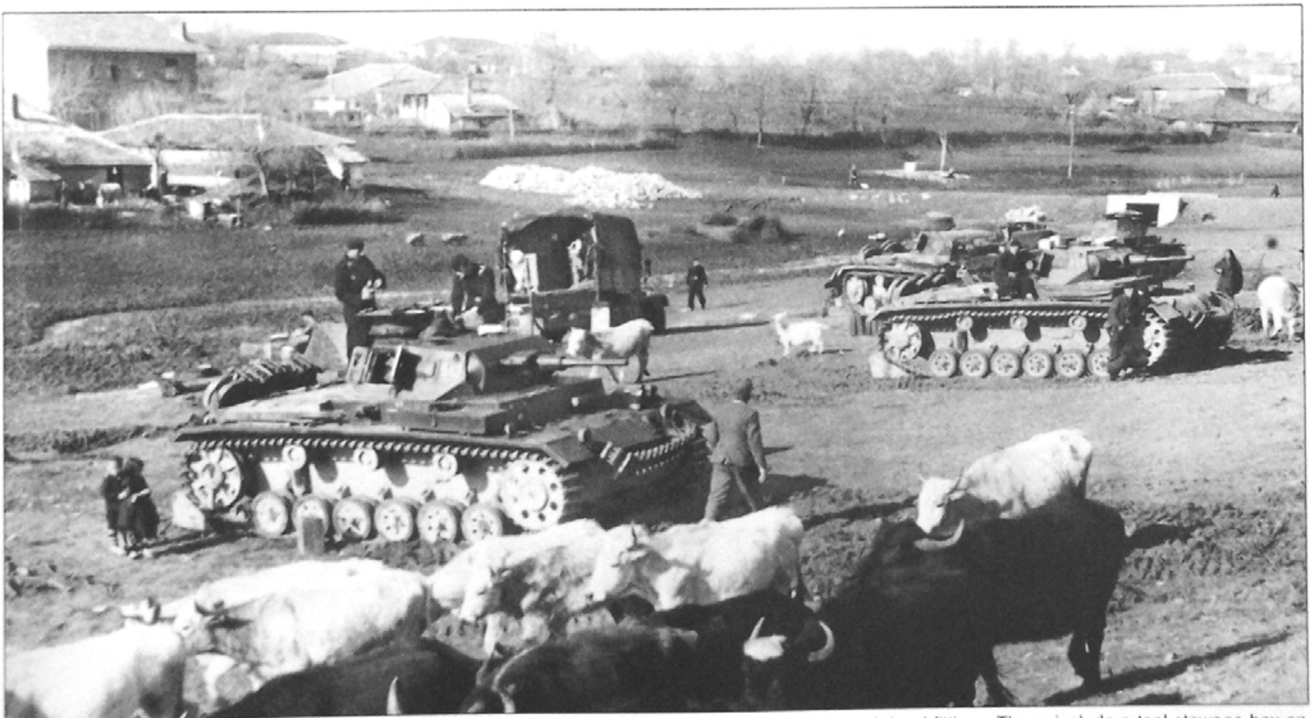
As originally produced, the majority of Pz.Kpfw.III Ausf.Fs mounted the 3.7cm KwK. The final group mounted the 5cm KwK L/42, while earlier ones had the latter weapon mounted as a retro-fitted item. This photograph depicts one such Panzer. The armored cowls over the brake cooling air intakes (seen immediately below the glacis plate-mounted head-lamp) were also first introduced on the Ausf.F. This particular Panzer is also unique in that it mounts a stowage bin on the near-side fender, which was originally designed to be fitted to the Pz.Kpfw.II-series.

This later Pz.Kpfw.III Ausf.F mounts the short 5cm KwK L/42 main gun in an external mantle, and also has Zusatzpanzerung (appliqué armor plates) on the upper glacis and the front of the superstructure. The cupola style depicted on this Panzer was changed mid-way in production of the Ausf.G, a further indication that this is probably a later Ausf.F. The Ausf.G was built initially mounting the 3.7cm KwK, but the short 5cm KwK was quickly introduced; however this simply provides another means to easily confuse it with the Ausf.Fs, which also were produced and/or retrofitted with the 5cm gun. This Panzer has obviously been knocked out and appears to have either been stripped for usable parts, or is being prepared for recovery; note that someone has gone to the trouble of stowing the remaining track on the engine deck.

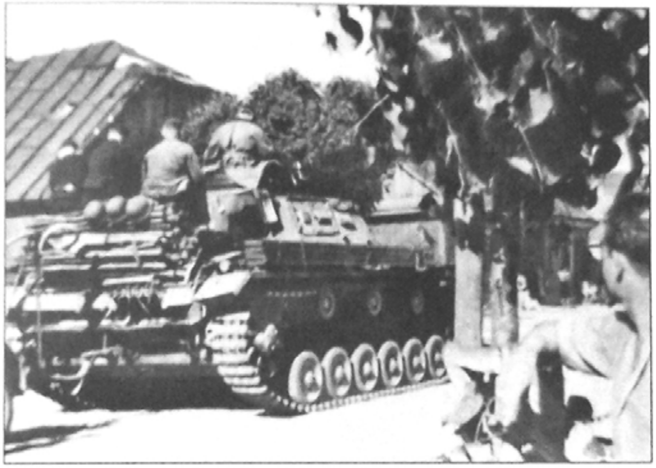




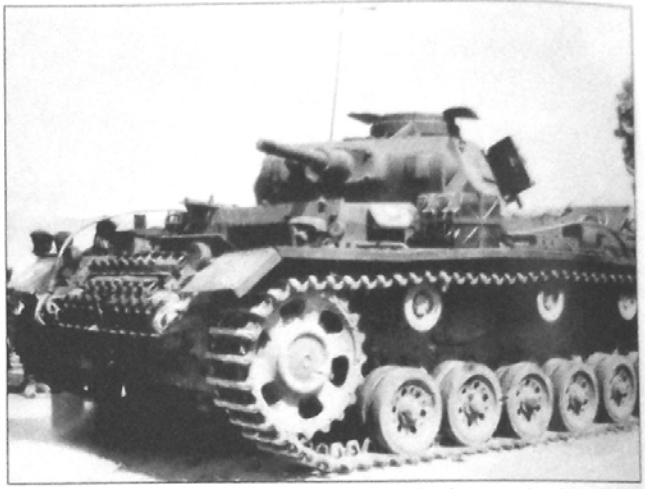
Reminiscent of a previous photo in this series of an Ausf.E, this later Pz.Kpfw.III Ausf.F with 5cm KwK L/42 is also marked as belonging to Panzerregiment 7, of the 10. Panzerdivision. Note the European Bison on the turret below the view port flap, applied by spraying white paint around a stencil. There is also a white-outline Balkenkreuz national insignia on the non-standard tool box on the fender, as well as a white Tac number for the regiment's II. Abteilung, 6. Kompanie, 4. Zug, first Panzer, on a rhomboid plate, attached to the tool box. The division's insignia, an upright "Y" with three vertical strokes, is stenciled in yellow on the superstructure side plate, just forward of the view-port flap. Other interesting features of this Panzer include 30mm Zusatzpanzerung (appliqué armor plates) on the superstructure front plate, wire brush guards fitted over the small fender-mounted marker lamps and a pennant affixed to the erected rod antenna.



This Zug (platoon) of later Pz.Kpfw.III Ausf.Fs, mounting the short 5cm KwK L/42, all exhibit similar unit-level fittings. These include a tool stowage box on their port-side fenders, spare track links attached to the tow points in such a way as to push them away from the bow plate (providing "spaced" protection) and a road-wheel storage rack on their superstructure rear plates. Note how the local children and livestock are wandering freely among the Panzer, an image which amply contrasts war and peace.



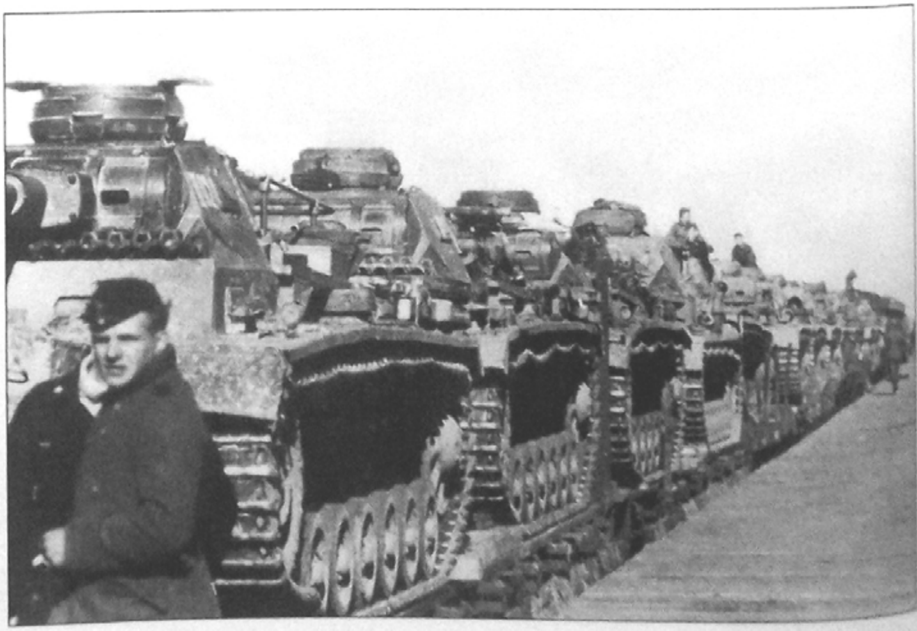
With very little to identify its model type, this Pz.Kpfw.III can be conjectured to be an Ausf.G, as the cupola appears to be of the style introduced with this type. If so, it's also the type first fitted to the Pz.Kpfw.IV Ausf.E, which was in production at approximately the same time. This Panzer is overloaded with various types of wood, including long planks on the fender and poles on the engine deck. It also features the Nebelkerzenabwurfvorrichtung (rack to deploy smoke candles) on the rear plate of the superstructure. Finally, a trailer of some sort is attached to the tow hitch on the lower rear hull plate.

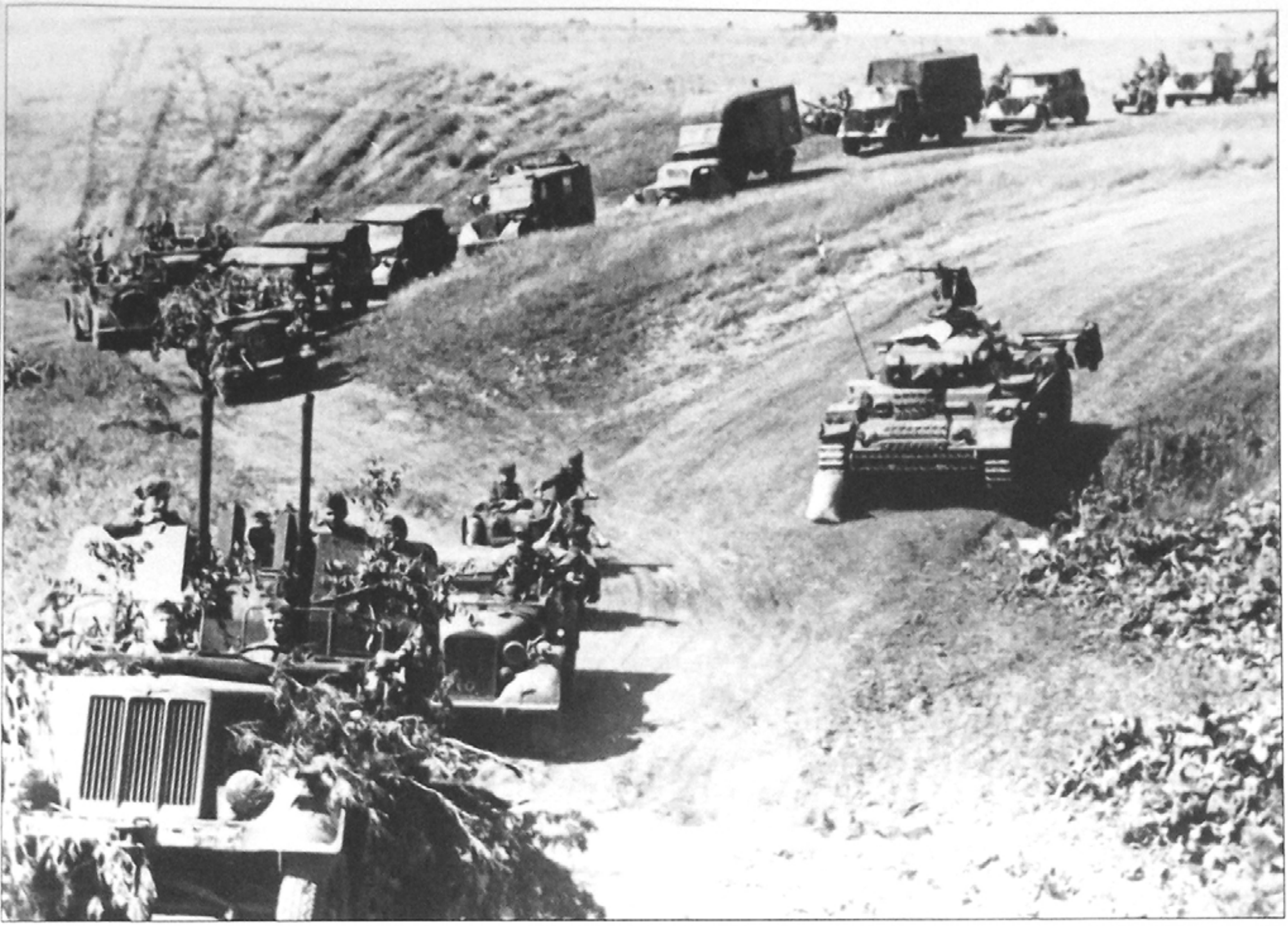


This Pz.Kpfw.III Ausf.H exhibits some of the major features that identify its model type. These include: new cupola, new drive sprocket (and its associated new transmission), new idler wheel (both of which allowed the use of 40cm-wide tracks), 30mm Zusatzpanzerung (appliqué armor plates) on the superstructure front, and the short 5cm KwK mounted in an external mantle. Items peculiar to this new model, but not visible in the photograph included a re-designed turret, whose rear plate was one continuous piece, without a cut-out for the cupola, and an additional 30mm of Zusatzpanzerung (appliqué armor plate) attached to the hull front and rear plates. Note the Notek black-out driving head-lamp on the near fender as well as the rack with two jerry cans (one is of the original style with an "X" stamped into the side for stiffening) further back.

This Pz.Kpfw.III Ausf.J is raising its own blizzard of snow dust as it moves through "white-out" conditions, somewhere on the Ostfront, probably during the winter of 1941-42. The configuration of the superstructure rear plate, first introduced with the Ausf.J, demonstrates the 50mm armor basis of this Panzer. The cupola is of the later style, while the engine deck is cluttered with the stowage usually seen on Panzer in the combat zone.

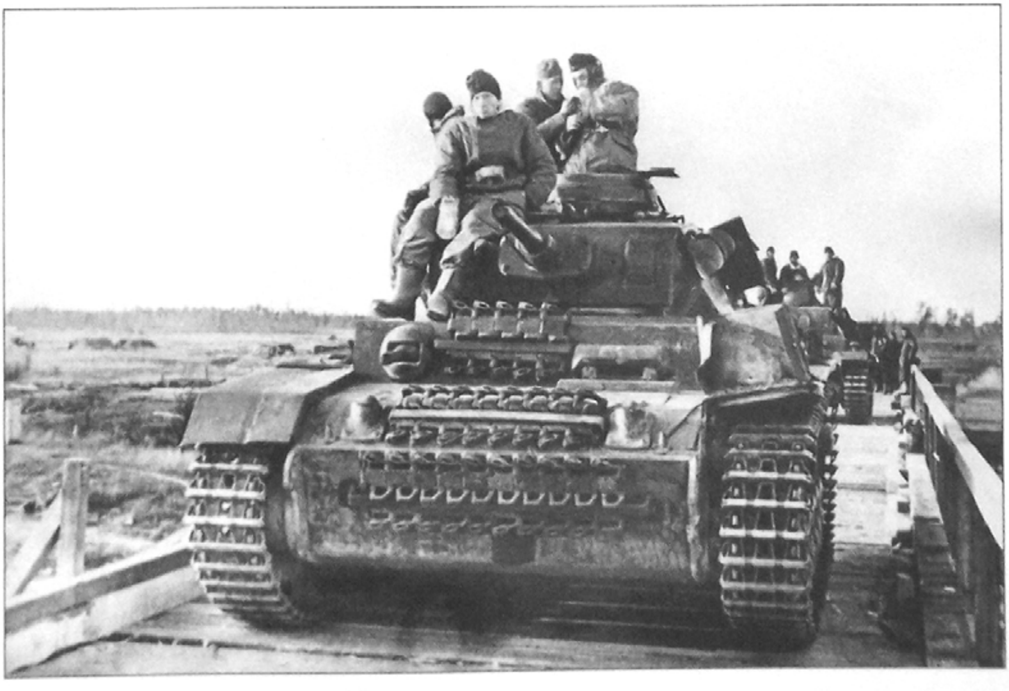
This Pz.Bef.Wg.III Ausf.H is mounted on a rail car for movement to, from, or along the battle front. Germany's Panzer were all limited in width, until the advent of the Tiger I and Tiger II, in order to fit within the standard European rail gage. Railroads were vital to the war effort not only for their ability to move massive amounts of supplies and troops, but for their ability to limit wear on combat vehicles by moving them over great distances. This 3./Serie großer Panzerbefehlswagen is identified as an Ausf.H (not to be confused with the standard gun tank also designated Ausf.H) by the30mm Zusatzpanzerung (appliqué armor) seen attached to the superstructure front plate. It also mounts the cupola introduced on the later Ausf.F and Ausf.G, which differentiates it from the Pz.Bef.Wg.III Ausf.E. The standard "Rahmenantenne" (frame antenna) as well as one of the two rod antennae, are also seen in this photograph. Finally, it is "armed" with a dummy 5cm KwK, which was retro-fitted to replace the dummy 3.7cm KwK originally seen on these models.

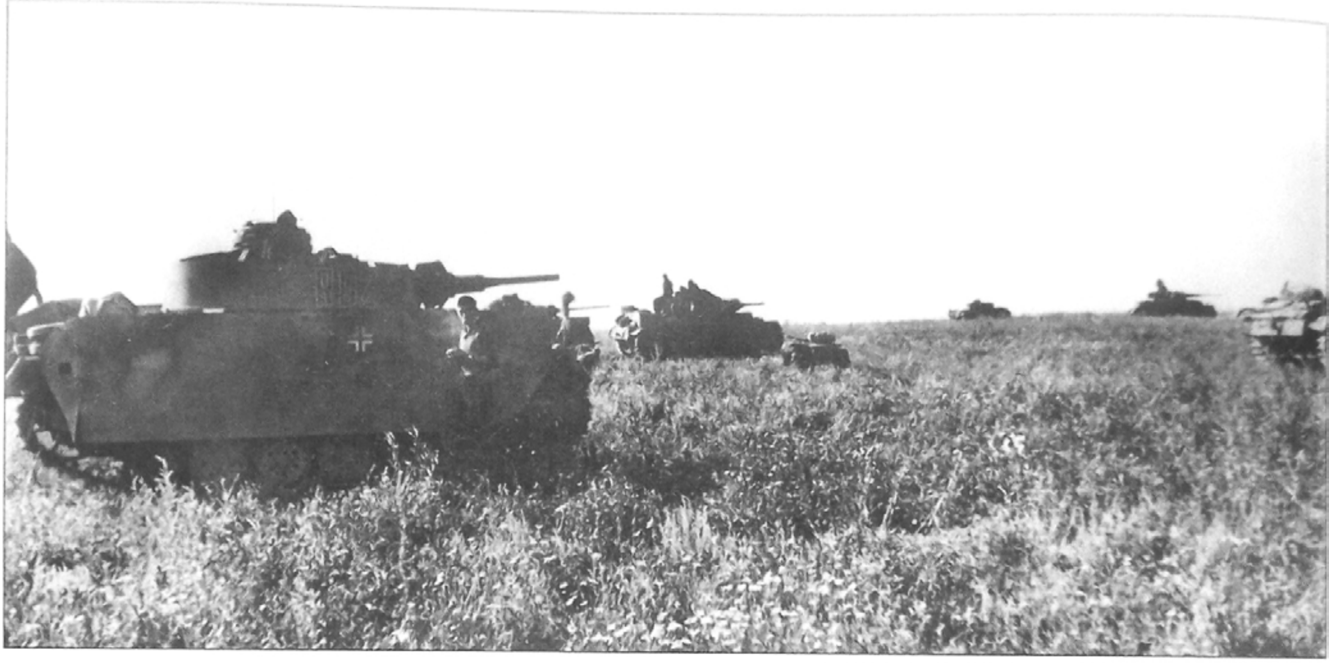




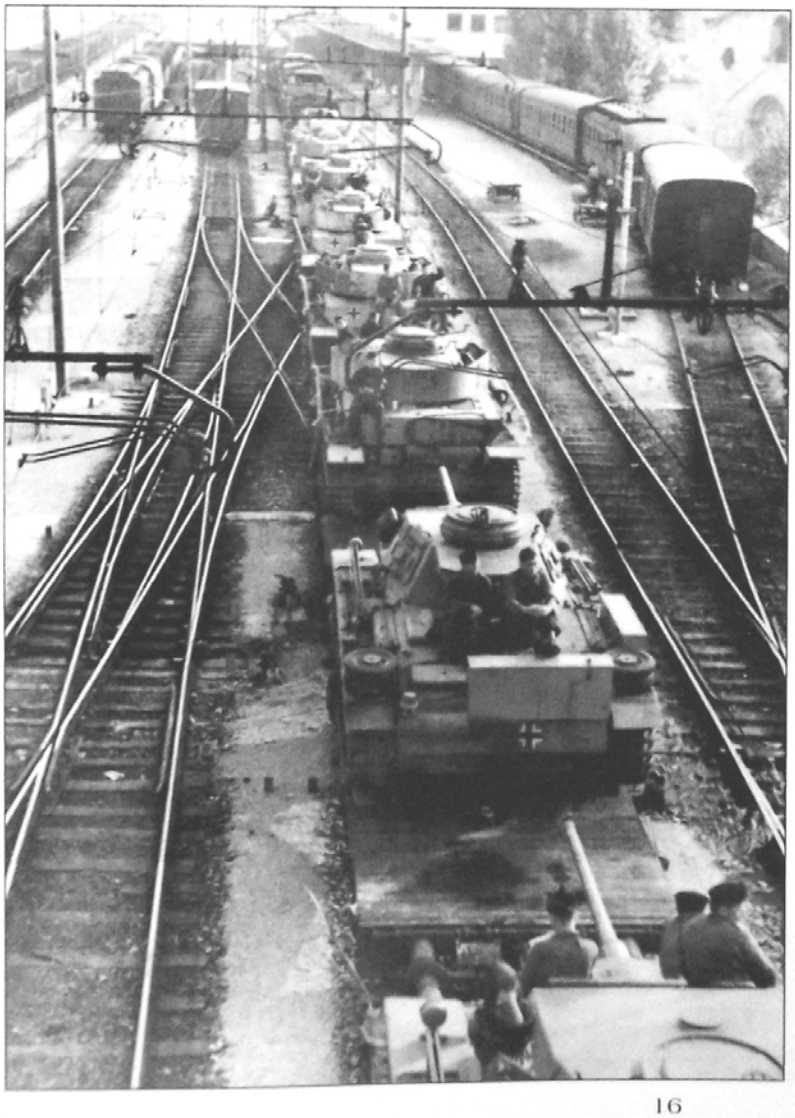
An Sd.Kfz.7/1 mounting a 2cm Flakvierling 38 leads a group of Horch Kfz.15 and Kfz.17 medium standard cross-country cars, and some Opel Blitz 3-ton lorries along a sandy track on the Ostfront. The wheeled vehicle types indicate that this is a Nachrichten (communications) unit. The Panzer is a Pz.Kpfw.III Ausf.J, as indicated by the Kugelblende 50 (machine-gun ball mount for 50mm armor), which was first seen on this model. The Panzer mounts the short 5cm KwK and has several sections of spare track attached to its front end as added protection. The heavily-stowed engine deck is further embellished with a large storage locker.

This Pz.Kpfw.III Ausf.J clearly shows another distinguishing feature of this model: the hull sides extended and drilled out to form tow shackle points at the front. Note also the stubs for mounting the conventional head-lamps (and their electrical conduits) between the brake air vent cowls and the fenders, as well as the cover over the radio operator's MG34 gun barrel. An extra stowage bin has been mounted on the port-side fender, while the starboard-side fender seems to have been repaired with a section of tread-plate; note the difference in texture, the small rivets, and how the texture extends to the mud flap.

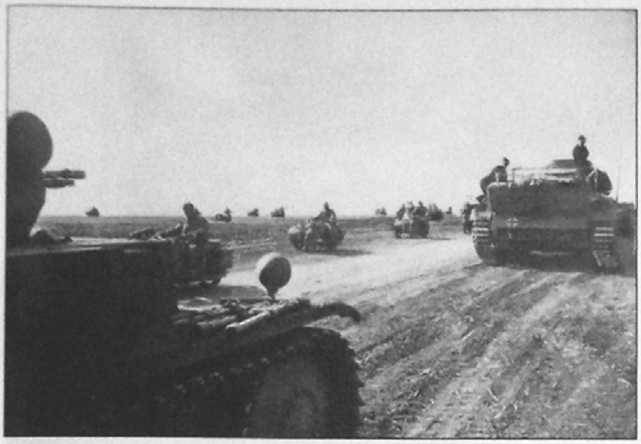




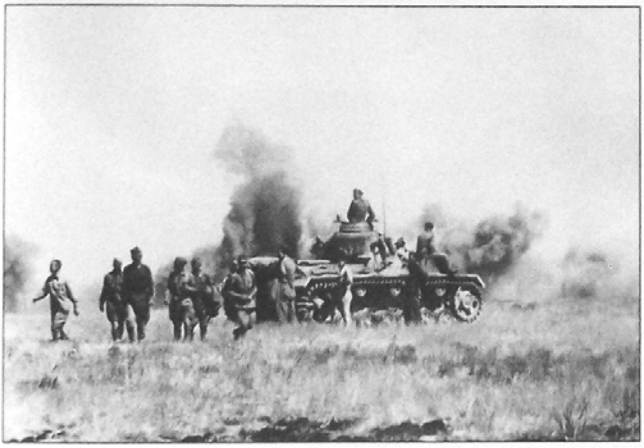
This Panzerbefehlswagen mit 5cm KwK L/42 (Pz.Kpfw.III Ausf.J), is from an un-identified unit on the Ostfront, possibly during the spring or summer of 1943. Rather than continue to produce specialized command tanks, the decision was made to use "off-the-shelf" Panzer for this purpose, in this case the Pz.Kpfw.III Ausf.J. This allowed for any Panzer to be converted in the field by the removal of certain internal items such as ammo racks and the radio operator's MG34. This also allowed these Panzer to be armed with the standard gun, the 5cm Kwk L/42, which enabled them, for the first time, to fight as a standard gun-tank. This Panzer is finished in the three-tone scheme introduced in February of 1943 (see the color plate section in this book), consisting of a base of Dunkelgelb RAL 7028 with a mottle pattern of Olivgrün RAL 6003 and Rotbraun RAL 8017. The Tac number, R02, indicates a regiment-level command Panzer; it is black, with a white outline and is seen on the turret Schürzen sides, but not on the rear. A black/white Balkenkreuz national insignia is seen on the hull Schürzen plates; note how there is an unusual bend in the plate at the Panzer's rear.



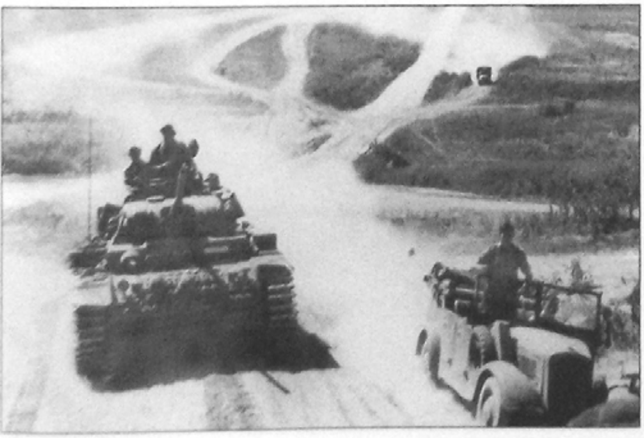
The rare Pz.Bef.Wg.III Ausf.K, (only 50 were built) carried the long 5cm KwK39 L/60 main gun in the so-called Schmal (narrow, or small) mantle, and was built on the Pz.Kpfw.II Ausf.M chassis. The first two Panzer (beginning at the bottom of this photograph) are identified as Ausf.Ks by several visible features. The bottom-most has a small Rauchsignalkorb (smoke signal basket) attached to the commander's cupola, the narrow gun mantle (behind the crewman at the right) and a storage trough for the rod antenna on the port-side fender. There is also a Bosch head-lamp fitted just forward of it. The next vehicle shows the exhaust muffler extension, lids to seal the engine deck overhang, covers to the engine air intake grills (all for deep wading) and a pair of Bosch head-lamps (one on each fender) were also introduced on the Ausf.M. Finally, we see the small Rauchsignalkorb (smoke signal basket) on the cupola and both rod antennae storage troughs (one on each fender). Both Panzer also have single-piece hatch lids on the commander's cupola. Not seen in this view (it is blocked by the large stowage locker) is the armored pot and insulator for the newly-introduced Sternantenne (star antenna), which was fitted on the rear deck. This replaced the older Rahmenantenne (frame antenna). The remaining Panzer on the train are Pz.Kpfw.IVs, probably late Ausf.Gs or early Ausf.Hs.

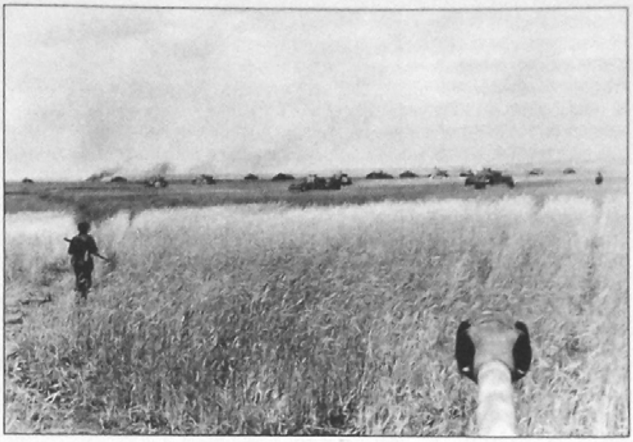


A Panzerbefehlswagen mit 5cm KwK L/42 (Pz.Kpw.III Ausf.J) leads a Pz.Kpfw.II Ausf.F (note the edge of the front superstructure plate) along a dusty road on the Ostfront. The Befehlspanzer (command tank) is identified as an Ausf.J by the configuration of the rear superstructure plate, and the Rahmenantenne (frame antenna) on the engine deck. Note the heavily-stowed engine deck behind the antenna; while earlier command tanks had their turrets fixed in place, this particular type was built from a standard gun-tank and therefore the turret could traverse to a limited degree.

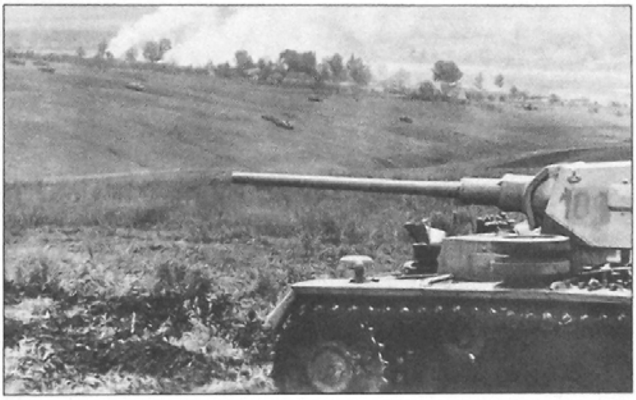


A group of Soviet prisoners move past what is either a late Pz.Kpfw.III Ausf.J or an early Ausf.L, while smoke moves across the background. This Panzer is identified as such by the orientation (fore-to-aft) of the armored cowls over the engine air cooling louvers. The engine deck access hatch lid arrangement was also changed; the two large hatches just behind the turret were changed from a split-lid design that opened towards the front and rear, to a single lid that opened towards the front. This arrangement could also be seen on the later Ausf.Js, which naturally further confuses the issue of identification.





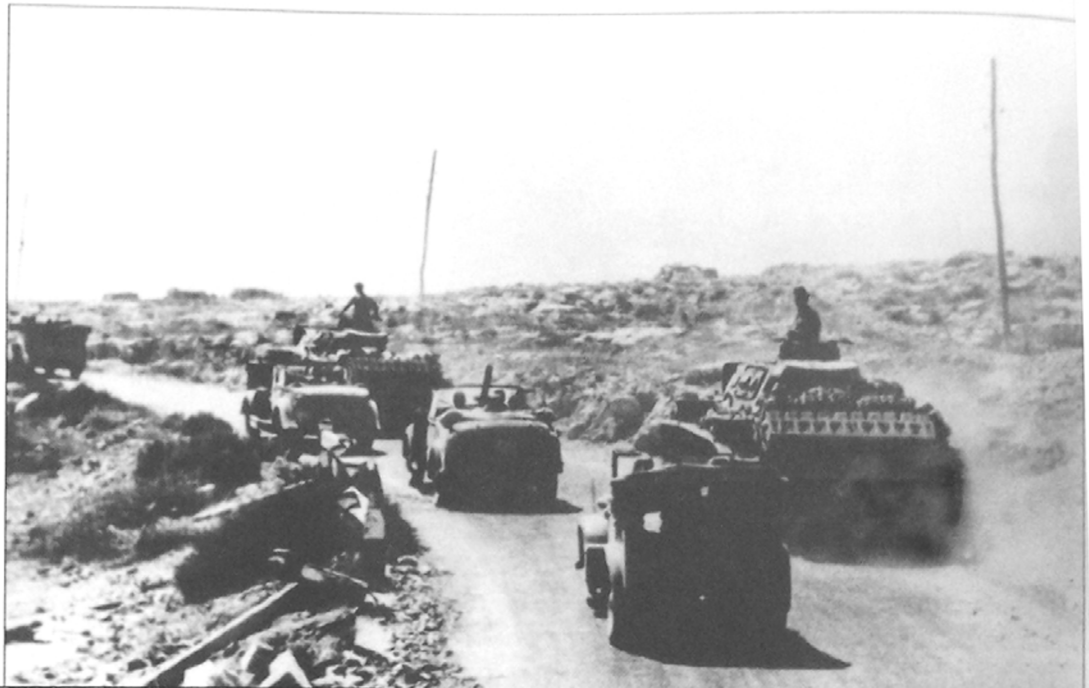
A mixed group of Panzer containing some Pz.Kpfw.III Ausf.Js or Ls, pause on the open steppes of the Soviet Union, probably during Operation Zitadelle (Citadel), the massive tank battle at Kursk, July of 1943. The Panzer have Schürzen plates attached to their hulls and turrets to protect their usually thinner side armor from Soviet 14.5mm-caliber Degtyarov and Simonov anti-tank rifles. The superstructure and hull sides, as well as turret sides and rear plates of later Pz.Kpfw.IIIs were usually 30mm thick, while the Soviet weapons could in theory only penetrate 25mm at 500 meters; at closer ranges they were a distinct danger, which is why the more heavily armored Panther also required Schürzen to protect its vulnerable hull sides. This protective measure was not developed to counter the shaped-charge warhead of the US Army's 2.36-inch Rocket Launcher M1 or M9 (Bazooka) as is commonly thought.

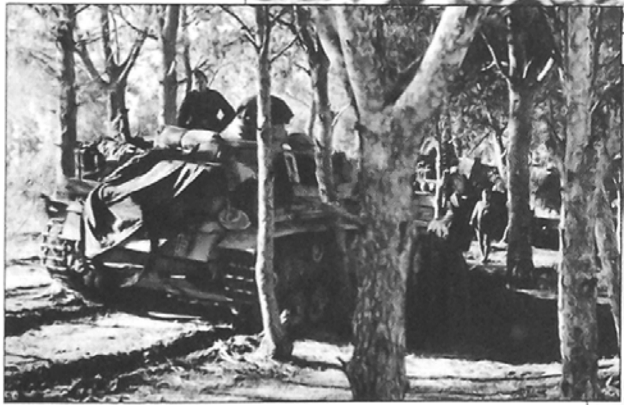


This up-gunned Pz.Kpfw.III Ausf.J is marked as belonging to the 14. Panzerdivision; note the unit's device located just above the two upper rivets that secured the vision port assembly to the interior wall of the turret. Since this Panzer lacks two of the main features of the Ausf.L (spaced armor arrays and frames on the superstructure and turret fronts), it is probably an Ausf.J re-armed with the 5cm KwK39 L/60. At 500 meters using Pzgr39 ammunition, this gun could penetrate 57mm of armor at 30-degrees from the vertical, while the earlier KwK38 L/42 could only penetrate 46mm at the same angle using similar ammunition.

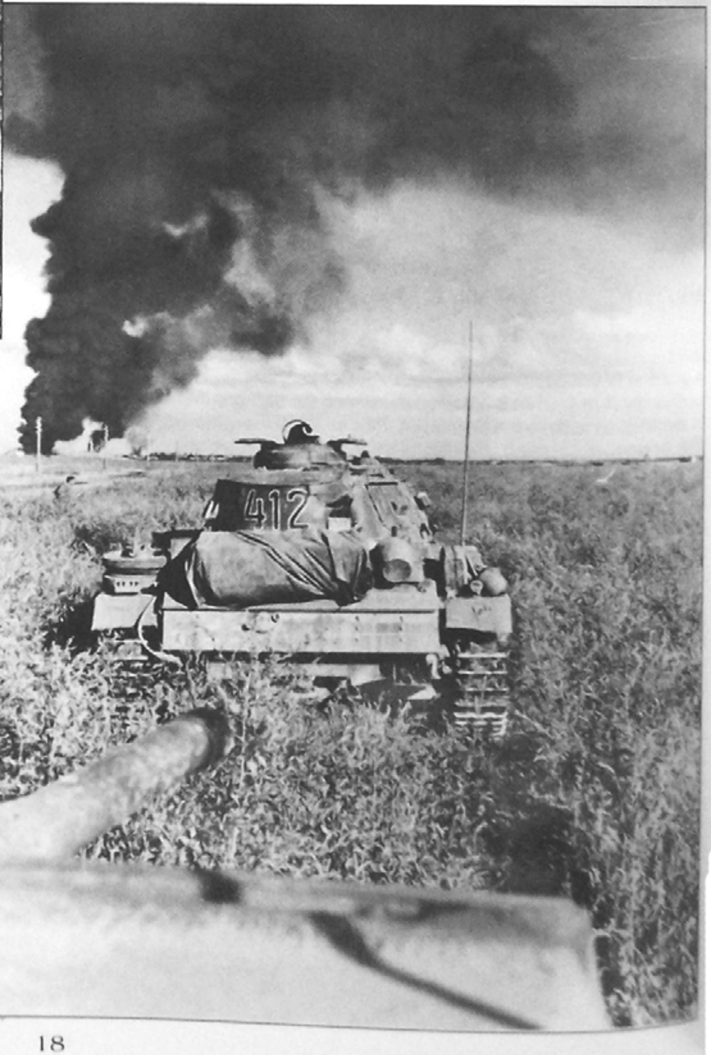
What is probably a Pz.Kpfw.III Ausf.J raises a cloud of dust as it moves with a Nachrichtenkraftwagen (signals/communication truck) Kfz.2, possibly based on the Horch 830 chassis and body. The Panzer is armed with the longer 5cm KwK39 L/60 main gun, which was commonly retro-fitted to the Ausf.J. This Panzer also lacks the 20mm Vorpanzer (spaced armor) array on the superstructure front, as well as the frame for same on the gun mantle (commonly fitted to the Ausf.L), furthering the case that this is an up-gunned Ausf.J. Note that the Notek black-out driving head-lamp is mounted in place of the conventional head-lamp on the port side of the glacis plate, between the cowl for the brake's cooling air vents, and the fender.

The near Panzer in this photograph can be identified as being a Pz.Kpfw.III Ausf.L due to the edge of the spaced armor plate on the gun mantle, which can be seen protruding past the forward edge of the turret side plate. This Panzer and the one in front of it, also have large racks affixed to the superstructure rear plates to hold ten jerry cans. There is also ample stowage to be seen on the engine deck.

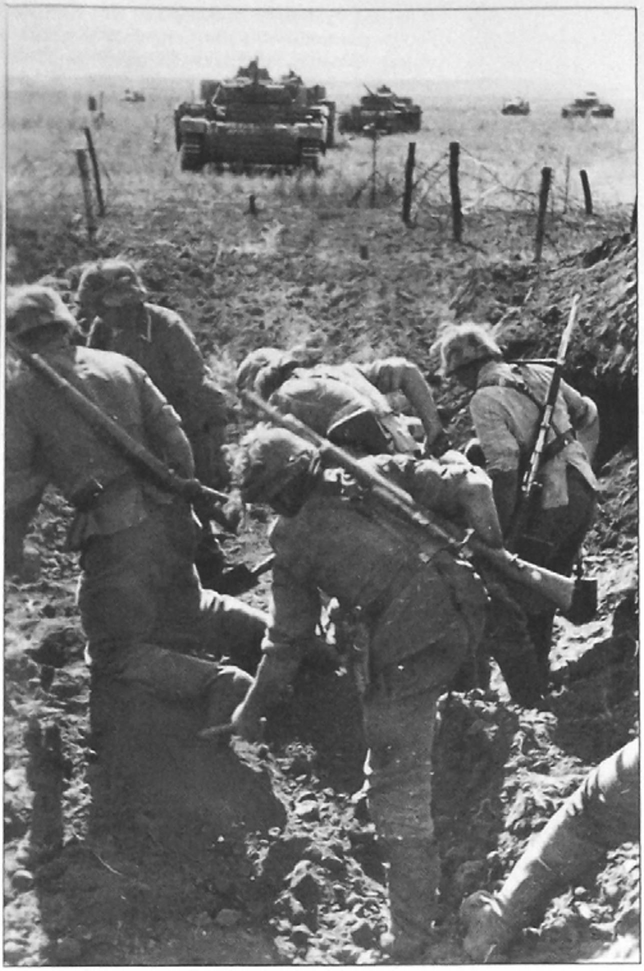




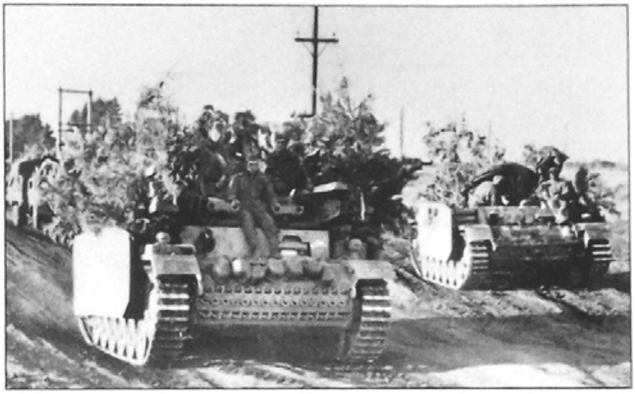
The position of this Panzer makes it virtually impossible to determine if it is a Pz.Kpfw.III Ausf.J or Ausf.L, but the shape of the rear superstructure plate makes it certain that it is one or the other. There is a huge amount of storage on the engine deck, making it likely that these Panzer are not headed immediately into combat, as they shelter from enemy observation among a small wooded area. There is what appears to be a playing card insignia visible on the rear superstructure plate, a spade in black with a white border; this would generally indicate which Kompanie (company) a given Panzer was assigned to.



This Pz.Kpfw.III belongs to II. Abteilung, Panzerregiment 6 of 3. Panzerdivision, which only had one Abteilung of Panzer during the summer of 1943, presumably when this image was created. Note the "Berlin Bear" un-official division insignia as well as the official one, an inverted "Y" with two vertical strokes, on the rear superstructure plate, to the left of the Balkenkreuz national insignia. The Panzer is an Ausf.J or L, but from this angle it is almost impossible to be sure; only the rear superstructure plate identifies it as being no earlier than an Ausf.J. The turret Tac numbers are also curious in that they should be in the 500-to-800 series when applied to a II. Abteilung Panzer; here they are seen as representing the 4. Kompanie, 1. Zug, second Panzer. They are most probably black in their centers, with a thin white outline.

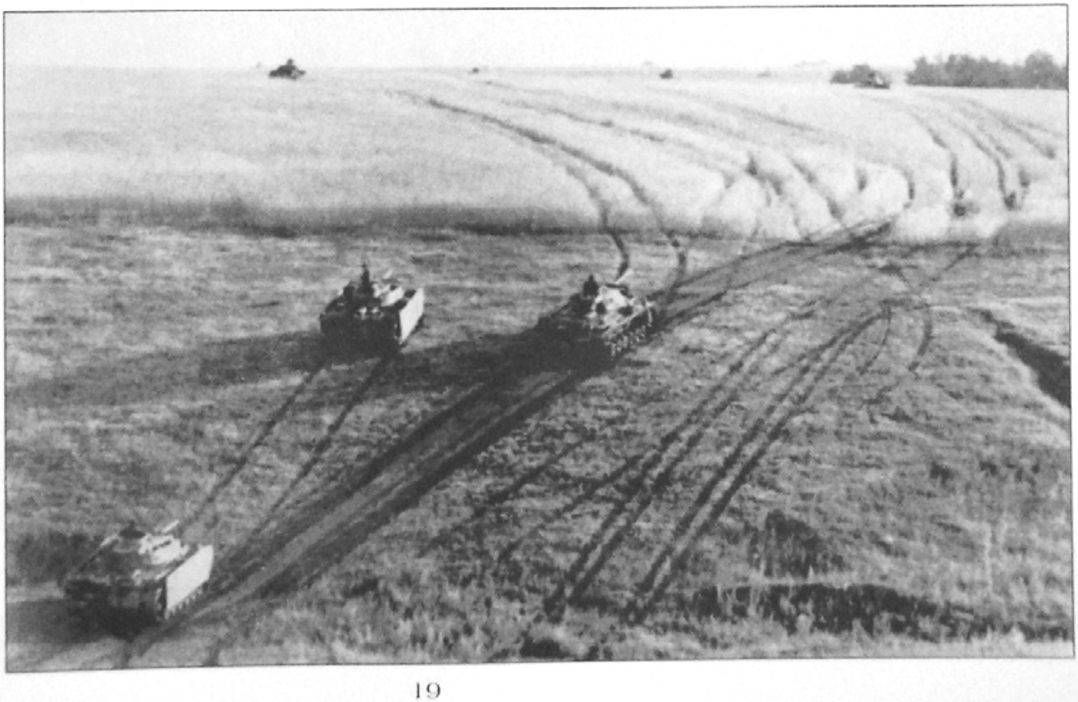


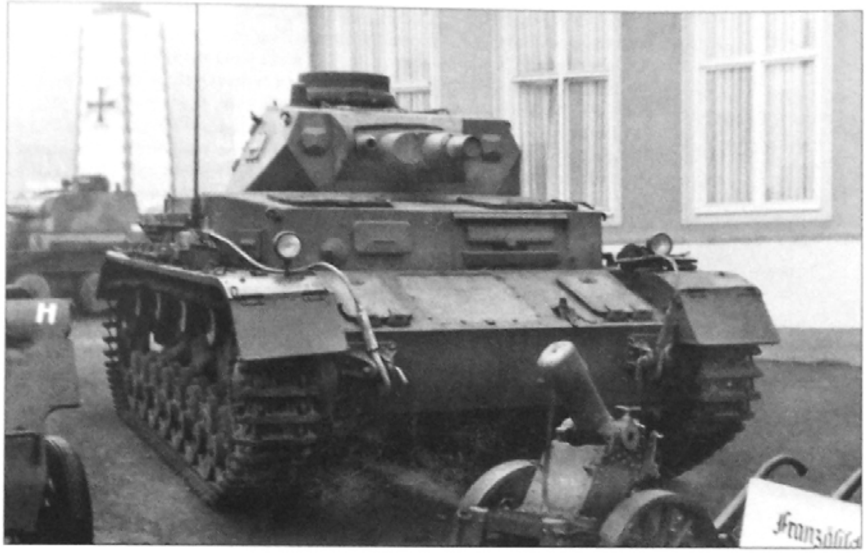
These Pz.Kpfw.III Ausf. Ls pause while Pioniertruppen (combat engineers) prepare a way through an enemy barrier. The men are lightly clothed and equipped, which is just as well since they must work extremely quickly in the hot sun, while striving to complete their task before enemy artillery zeroes-in on the stalled Panzer column. Their M1935 steel helmets are covered in the Heeres (Army) camouflage pattern cloth and they are armed with Kar98k carbines, which each wears slung over the back for instant access in case the enemy makes an appearance. The Panzer are identified as Ausf.Ls by the frames for the spaced armor arrays on the gun mantles as well as those on the superstructure front plates. The first and second Panzer also have turret and hull Schürzen, while the third does not. All are armed with the long 5cm KwK39 L/60 main gun.



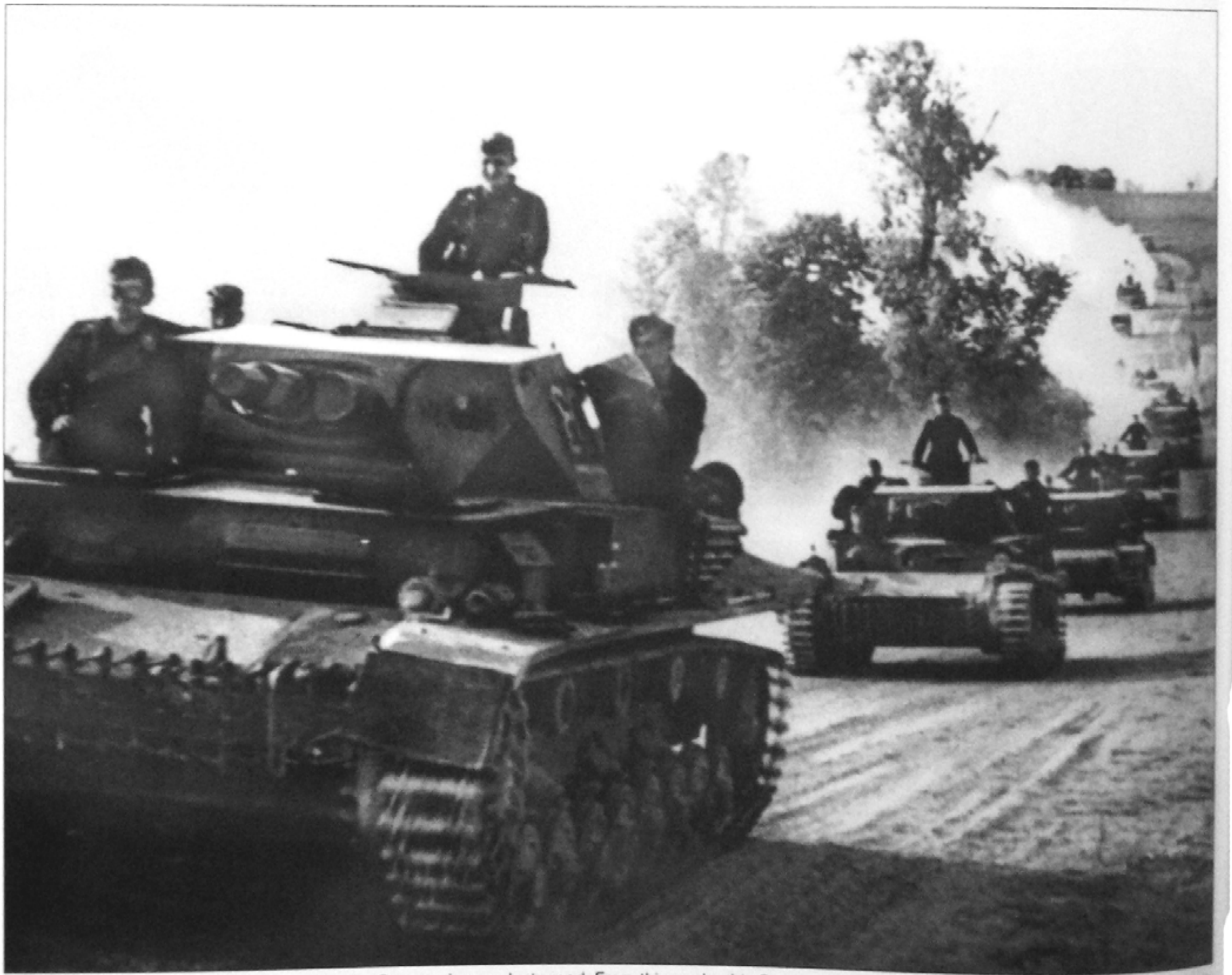
These interesting vehicles are Pz.Kpfw.III Ausf.Ms converted to Pionierpanzerwagen auf Fahrgestell Pz.Kpfw.III to carry engineer bridge equipment. The base chassis can be identified as an Ausf.M due to the presence of twin Bosch black-out driving head-lamps, one on each fender behind the mud flaps. These Panzer also feature a Vorpanzer (spaced armor) array fitted over the superstructure front plate, as well as Schürzen on the hull sides; the far Panzer has openings cut in two of the segments for access to equipment. Both Panzer also sport a rather large amount of foliage for concealment, while the near one has what appears to be the "Charging Bull" insignia of H.s.Pz.Abt.505 (Army Heavy Tank Battalion 505) on the Vorpanzer plate in white; this was later changed to the more well-known "Charging Mounted Knight". '505 was originally outfitted with a total of 18 (or 25; sources vary) Pz.Kpfw.III Ausf.Ms (again, sources vary as to specific model, but photos confirm them as Ausf.Ms) when initially formed in March of 1943. Thus, there was certainly a ready source within the unit for such conversions.

A group of Pz.Kpfw.III Ausf.Ls loiters below the crest of a small terrain feature, while on the horizon other Panzer move forward. Note the peculiar trails left in the local vegetation by the Panzer. That these are probably Ausf.Ls can be determined by what appears to be shadows on the turret front ends (particularly the Panzer without any Schürzen), which may indicate the fitting of the spaced armor arrays. Easily confused with the Pz.Kpfw.IV at such a distance, the sure means of identifying these as Pz.Kpfw.IIIs are the six road-wheels of the suspension system, as seen here.



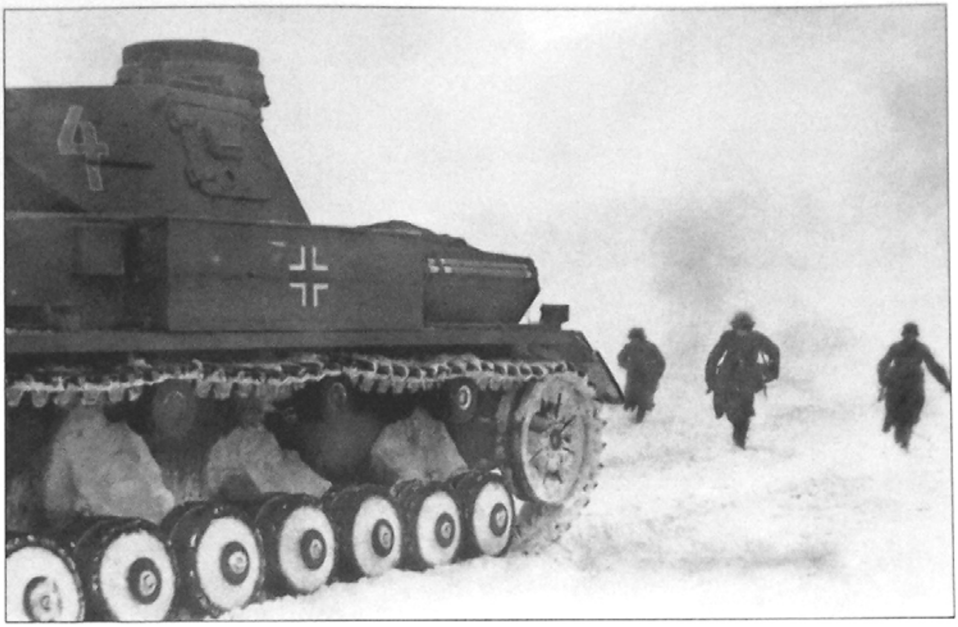


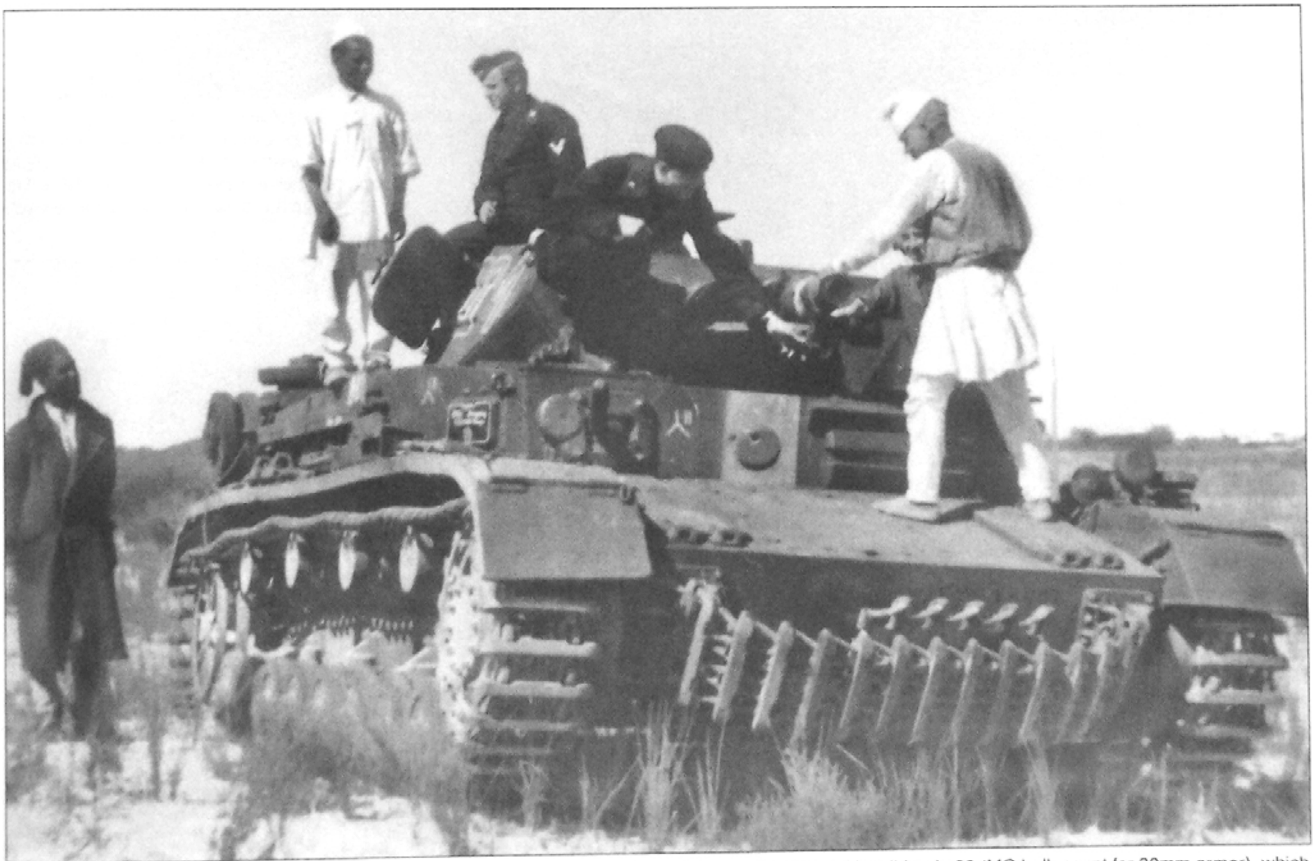
A pristine Pz.Kpfw.IV Ausf.C poses with captured French and British AFVs and ordnance at a public display, following the French Campaign of 1940; note the British A-13 Cruiser Tank in the background. This Panzer can be differentiated from the earlier and extremely similar Ausf.B by the armored sleeve for the co-axial MG34 on the internal gun mantle (the weapon itself is not mounted), as well as the shape of the upper edge of the opening of the external part of the gun mantle. Note also the "raised" style of the lids for the final drive access hatches; these were changed to a flush-fitting type on the Ausf.E. This Panzer is fitted with a Notek black-out driving head-lamp mount (minus the hooded lamp itself) between the port-side final drive access hatch lid and the main transmission access hatch cover.



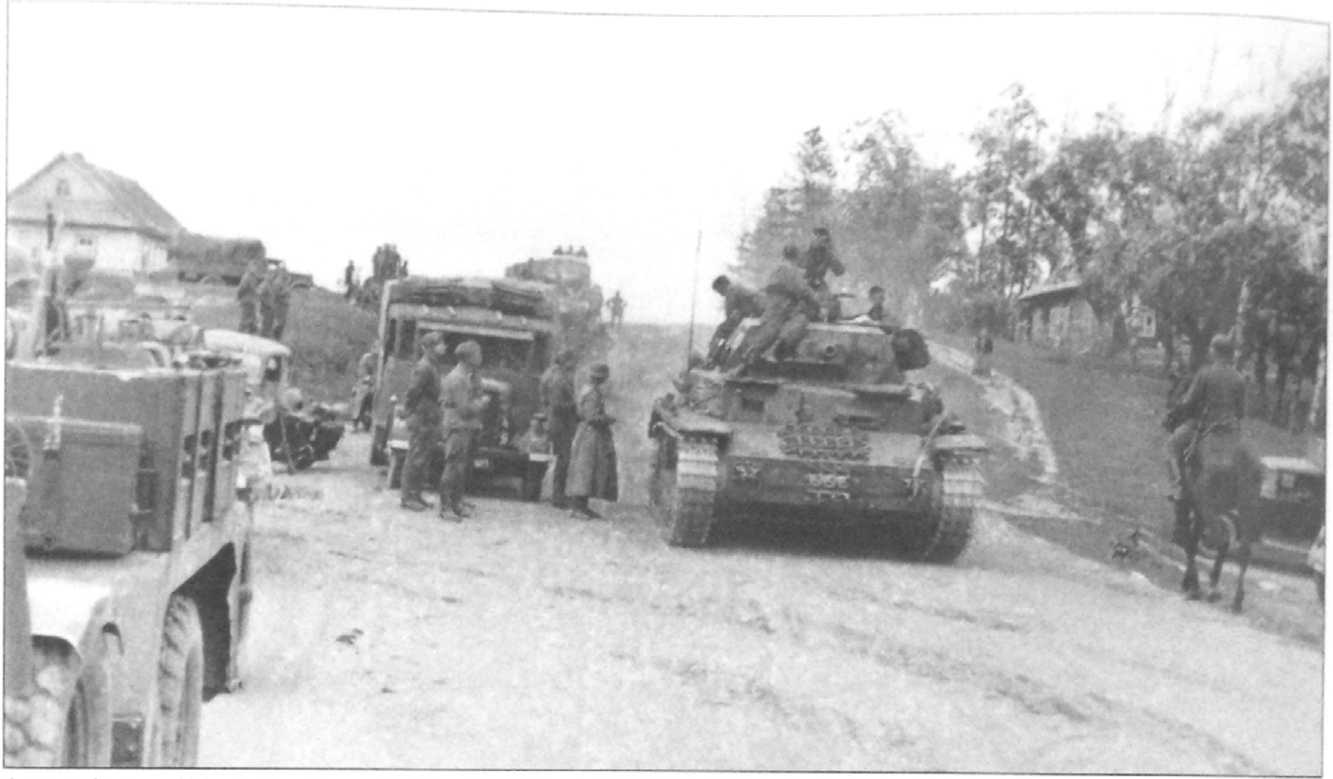
A Pz.Kpfw.IV Ausf.C leads a column of similar Panzer along a dusty road. From this angle, this Panzer is identified as an Ausf.C by the shape of the upper edge of the opening of the external part of the gun mantle. The difference is very subtle compared to the previous Ausf.B; the modification was carried out to lessen the likelihood that hits by small-caliber bullets and shell splinters would jam the gun. The huge cloud of dust raised by this column would give the enemy advanced warning of their arrival. So either this photo was taken during an exercise, or the potential reactions of the enemy are of no concern to these men. The lead Panzer has an underlined Tac number on the side of the turret, beginning with a "8", probably in white. There is also a Balkenkreuz national insignia on the side of the superstructure, which can be partially seen just aft of the armored cowl for the crew compartment vent.

Although this tantalizing image was unfortunately framed in this manner by the photographer, the Panzer can still be identified as a Pz.Kpfw.IV Ausf.D because there are three bolts securing the turret side visor assembly. Other interesting details are the bump-stop for the turret side access hatch, just forward of the upper corner of the lid (later turrets from the Ausf.E onwards had a lever-shaped device below, and forward of the lid). The Tac number, a stylized "4" appears to be in a color other than black or red, and may possibly be outlined in yellow. There is a black/white Balkenkreuz national insignia on the non-standard locker attached to the fender; note also the gun tube bore swab and staffs and how they show bare metal connectors as well as natural wood poles. The cupola on the Ausf.A through Ausf.D protruded past the rear edge of the turret roof and onto the rear plate; this feature is just visible behind the upper corner of the turret.

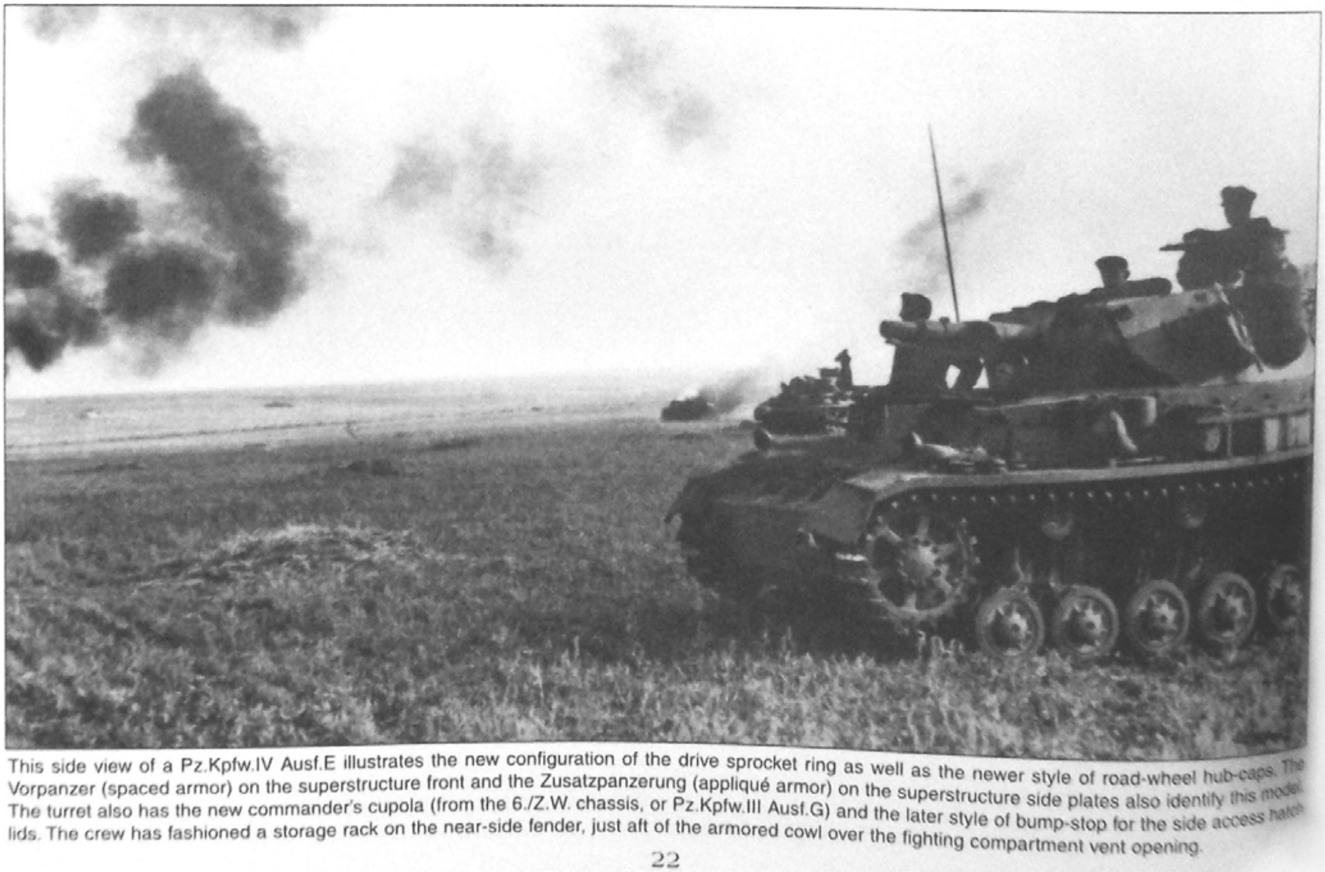




The Pz.Kpfw.IV Ausf.D (seen here) introduced the stepped superstructure front plate and MG34 in a Kugelblende 30 (MG ball mount for 30mm armor), which was also retained on the later Ausf.E. The raised final drive access hatch lids were also a feature of the Ausf.D, which was replaced with flush-fitting lids on the Ausf.E. Thus, this combination of features can be used to determine weather the Panzer being viewed is an Ausf.D or Ausf.E. The Panzer is painted in overall Dunkelgrau RAL 7021 and is marked as belonging to the 5. leichte Division; note the inverted "Y" with two vertical strokes on the superstructure front and side plates. Panzerregiment 5 from this division was deployed to Tripoli in early March 1941 to form the nuclease of Rommel's Deutsches Afrika Korps (DAK). There is a commemorative plate painted in black and white on the radio operator's superstructure side visor cover; these were used to commemorate a deceased crew member of a Panzer, and usually consisted of the name and date of death of the individual. A three-digit white-outline Tac number (??1) is seen the side of the turret, while a black/white Balkenkreuz national insignia can be seen on the superstructure side, carried over to the rod antenna storage rough. The Panzer crewmen wear the standard black M1934 uniforms with M1935 Feldmütze (field-caps). This photograph was taken early in the Regiment's deployment as the crew give a "cook's tour" of their Panzer to local inhabitants.

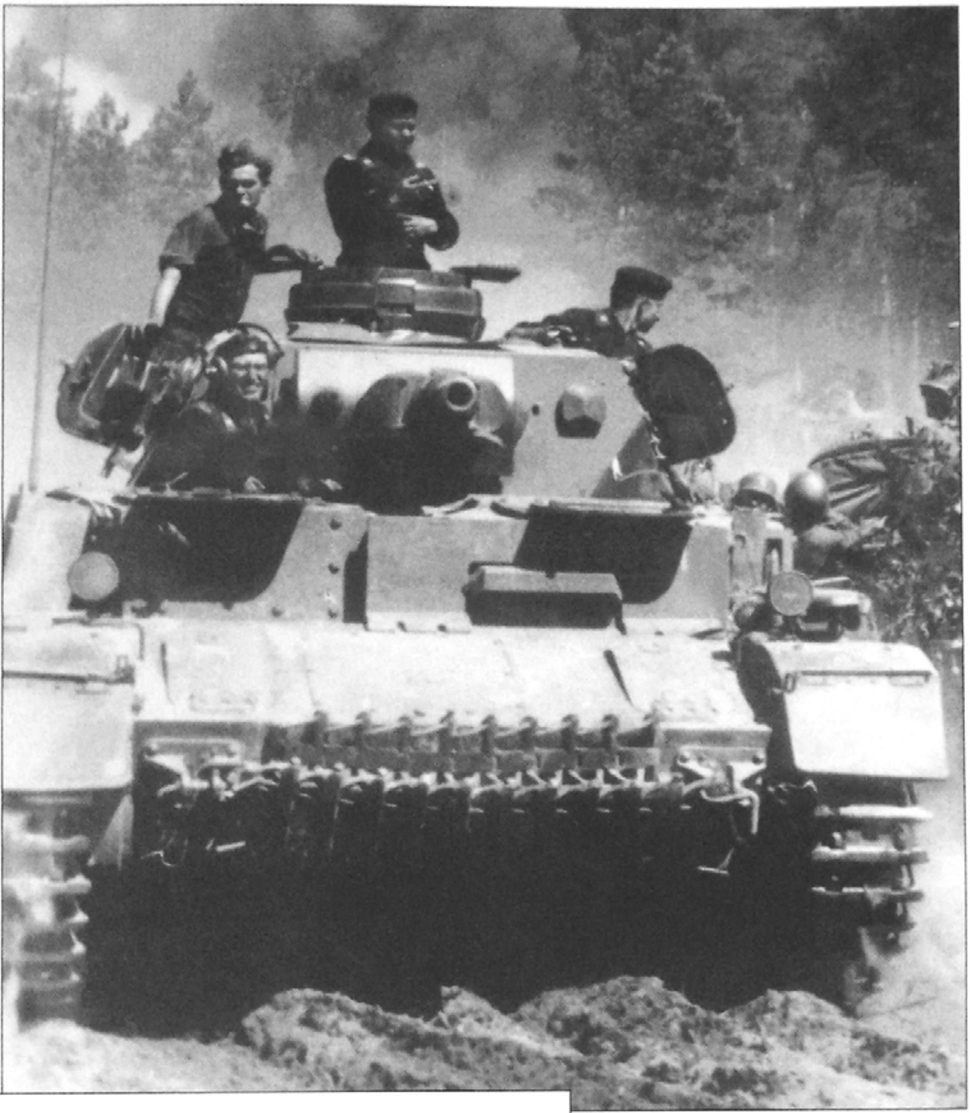


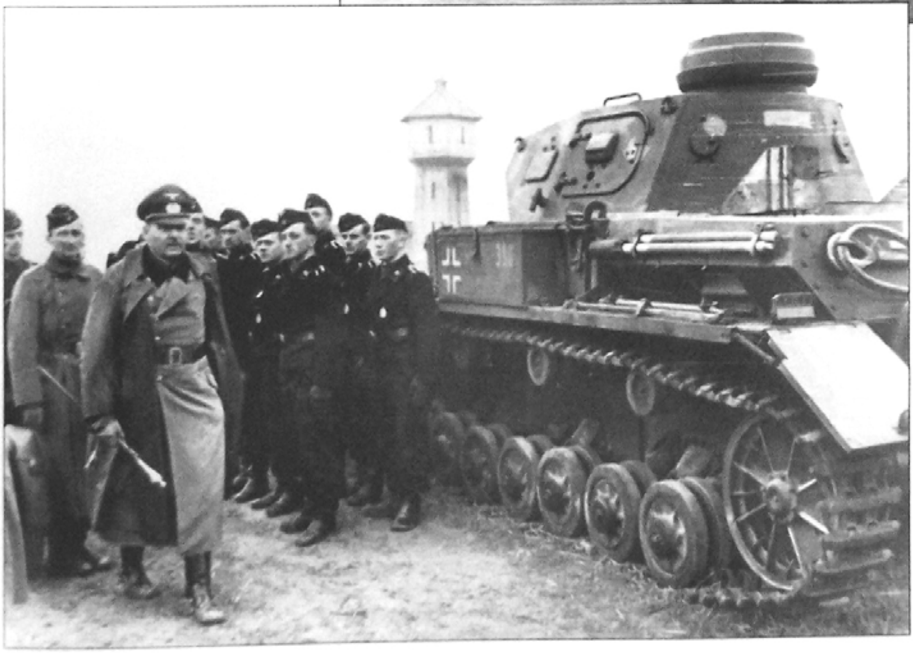
A group of motor vehicles, led by a Krupp Kfz.69 hauling a 3.7cm PaK35/36 (note the ammo storage lockers on the tractor and the gun's wheel just visible aft of the rear fender) wait on a road-side while a Pz.Kpfw.IV Ausf.E passes on its way to the front. Comparing this photo to the previous one of the Ausf.D will reveal several features seen first on the Ausf.E. These include: bolted-on Vorpanzer (spaced armor) on the superstructure front plate as well as Zusatzpanzerung (appliqué armor) on the superstructure side plates. Also new for this model (and visible in this photo) was an external mantle for the 7.5cm KwK, flush-fitting final drive access hatch lids, and a new commander's cupola. Changes not visible in this view included a turret rear face without a separate bulge for the commander's cupola and a revised drive sprocket ring.



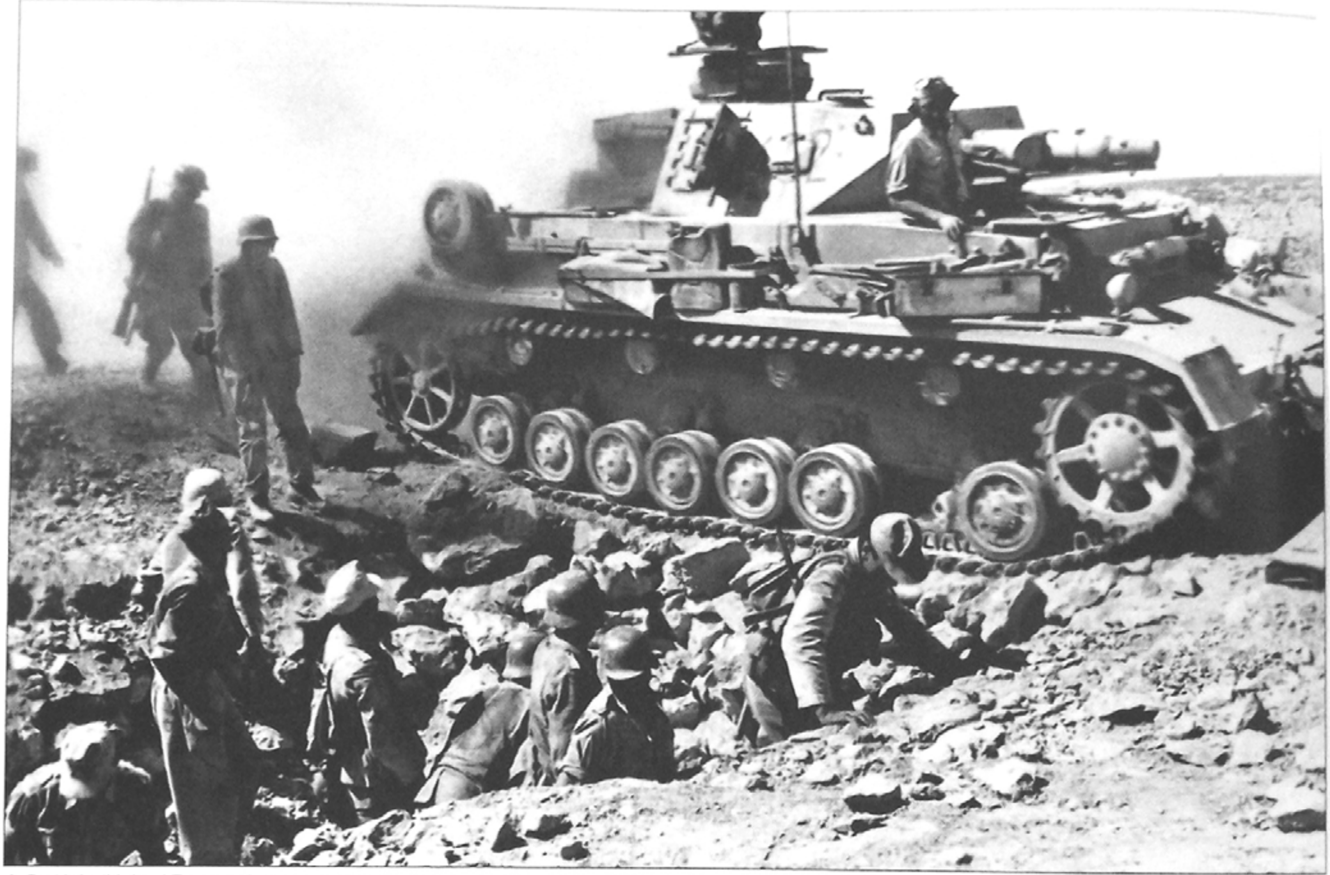
This side view of a Pz.Kpfw.IV Ausf.E illustrates the new configuration of the drive sprocket ring as well as the newer style of road-wheel hub-caps. The Vorpanzer (spaced armor) on the superstructure front and the Zusatzpanzerung (appliqué armor) on the superstructure side plates also identify this model. The turret also has the new commander's cupola (from the 6./Z.W. chassis, or Pz.Kpfw.III Ausf.G) and the later style of bump-stop for the side access hatch lids. The crew has fashioned a storage rack on the near-side fender, just aft of the armored cowl over the fighting compartment vent opening.

This Pz.Kpfw.IV Ausf.E shows several of its main identifying features as well as some interesting details. It has an external mantle for its 7.5cm KwK, the newly-introduced commander's cupola and flush-fitting final drive access hatch lids. Finally, Vorpanzer (spaced armor) is fitted to the superstructure front. There appears to be part of a divisional insignia on the driver's front plate, while the outline a Tac number can be partially seen on the starboard-side turret access hatch lid. There is a Nazi flag on the turret roof for aerial recognition, a non-standard stowage box on the starboard-side fender and a Notel black-out driving head-lamp on the port-side fender.

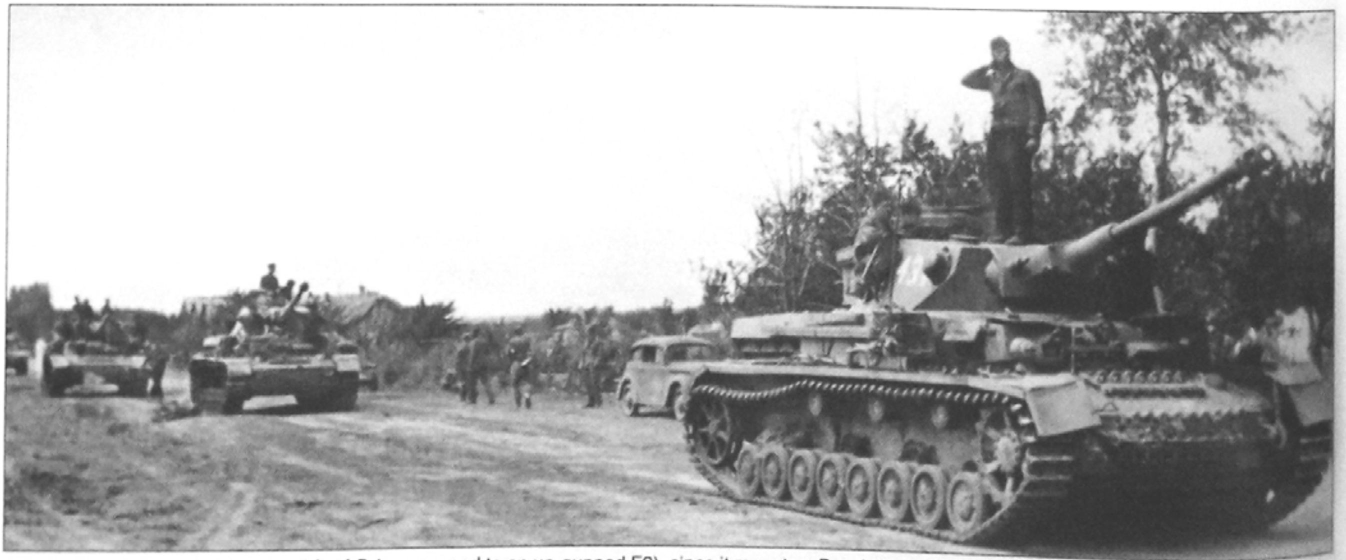




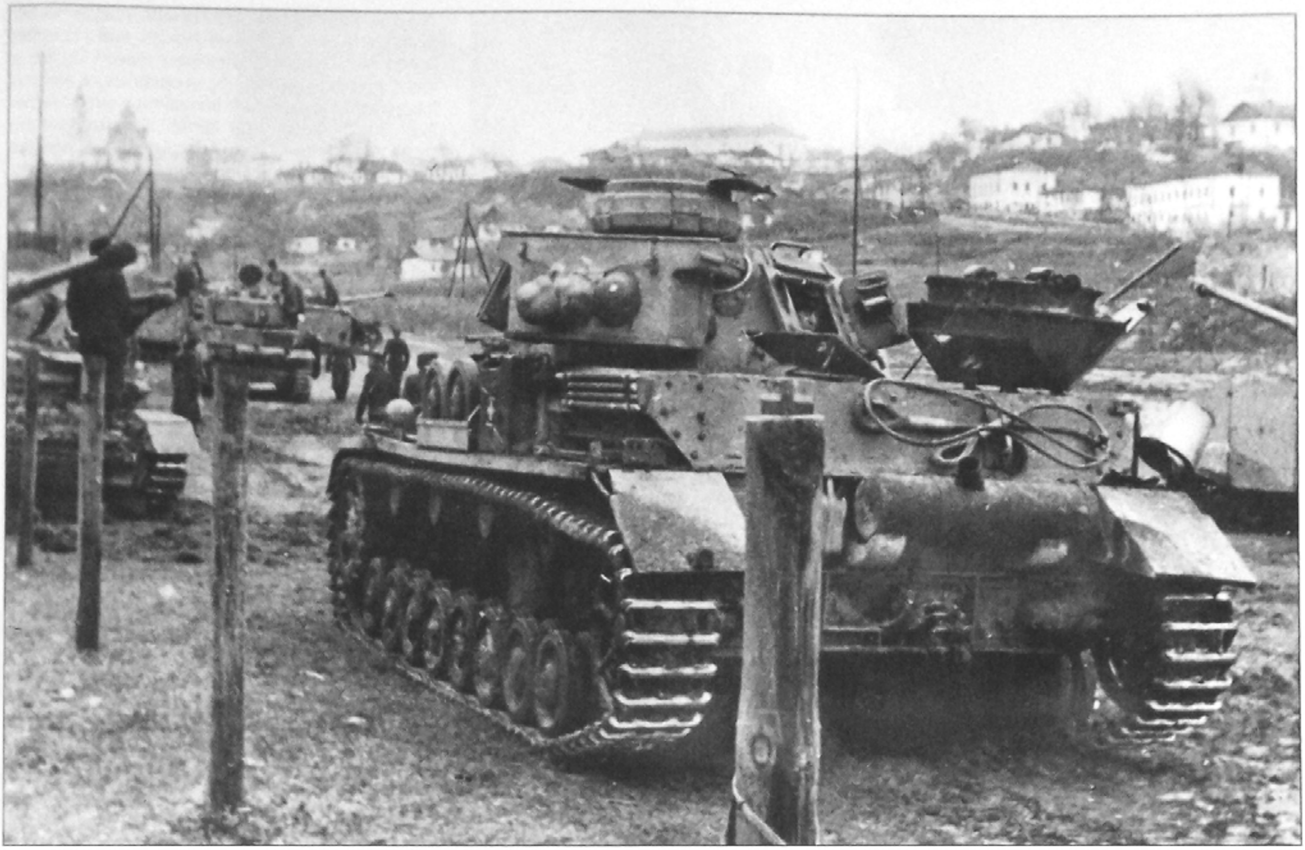
The crew of this Pz.Kpfw.IV Ausf.E stand at attention as Generaloberst (Colonel-General) Heinz Guderian, Generalinspekteur der Panzertruppen strides past them. The details of the re-designed turret can be plainly seen in this view; note the lack of separate bulged plate behind the new commander's cupola on the turret rear. In a continued quest for standardization, components from the latest Panzer were made interchangeable. Thus the commander's cupola, newly introduced on the 6./Z.W. (Pz.Kpfw.III Ausf.G) was also seen on the Pz.Kpfw.IV-series beginning with the Ausf.E. There is a small yellow Tac number (possibly 311) on the large fender-mounted stowage locker, along with a white-outline Balkenkreuz national insignia. There is also a small white rectangle painted on the rear face of the turret, below the commander's cupola, whose meaning is unknown (the item below it is a wooden wedge laying atop the engine deck). This Panzer also has hub-caps on the last few road-wheels that were discontinued after the Ausf.D.



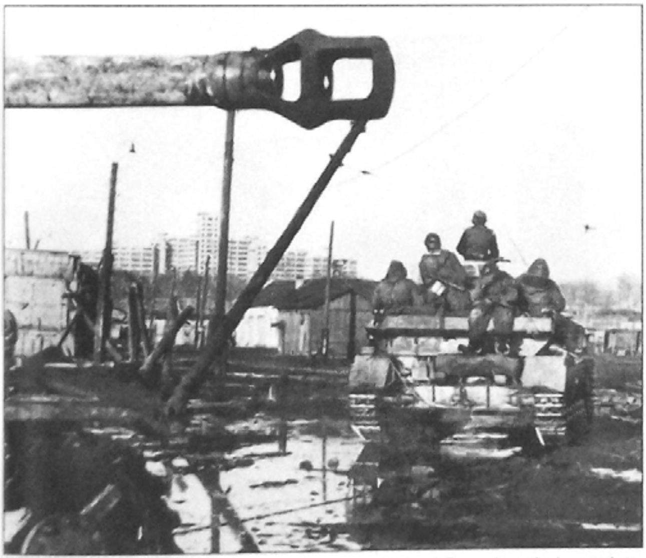
A Pz.Kpfw.IV Ausf.F belonging to Rommel's Deutsches Afrika Korps (DAK) moves past a group of infantrymen as they work to improve their rock-laden fighting position. Major changes on the Ausf.F included the introduction 50mm-based armor, including a straight front superstructure plate that was 50mm thick, which incorporated a new Fahrersehklappe 50 (driver's vision port for 50mm armor) and a Kugelblende 50 (machine gun ball mount for 50mm armor). These last items were adapted from the Pz.Kpfw.III Ausf.J. Dished drive sprockets were fitted to accommodate wider 40cm tracks, as were wider road-wheels. These were fitted to lessen the ground pressure that resulted from the increase in the overall weight of the more heavily-armored panzer. The turret also received new two-part side hatch lids first seen on the 4./Z.W. (Pz.Kpfw.III Ausf.E) chassis. This panzer is missing the second road-wheel on the first bogie spring, possibly due to a failure of the rubber tire rim, a common occurrence in the heat of the desert; note the spare on the side of the engine deck. The turret carries a three-digit Tac number, possibly 422, on its side; there are no other markings visible.



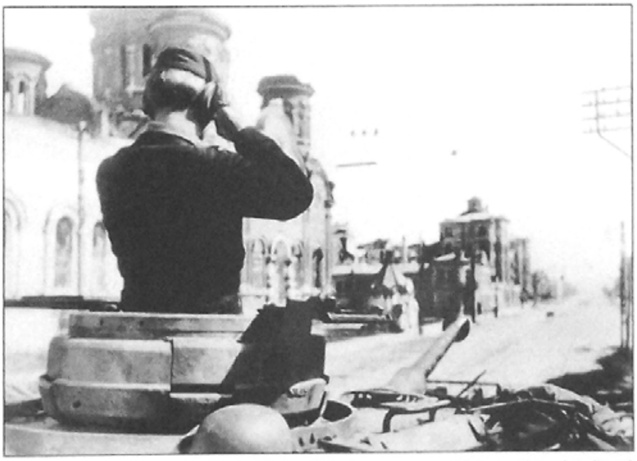
This Pz.Kpfw.IV is probably a "true" Ausf.G (as opposed to an up-gunned F2), since it mounts a Bosch black-out driving head-lamp on both fenders. It mounts the long 7.5cm KwK L/48, but otherwise the remaining features are standard for the earlier Ausf.Gs. They include a pivoting rod antenna and its associated storage trough on the starboard-side and a split hatch lid arrangement on the commander's cupola. Other features are: an armored cowl over the opening for the brake cooling air vents, seen on the final drive access hatch lid (first introduced on the Ausf.F), fittings to mount seven spare track links on the center of the glacis plate, and the deletion of the view ports on the sides of the turret. This Panzer (431, in white), the number one vehicle, 3. Zug, 4. Kompanie, I. Abteilung of the division's Panzerregiment has lost its rear-most return roller.



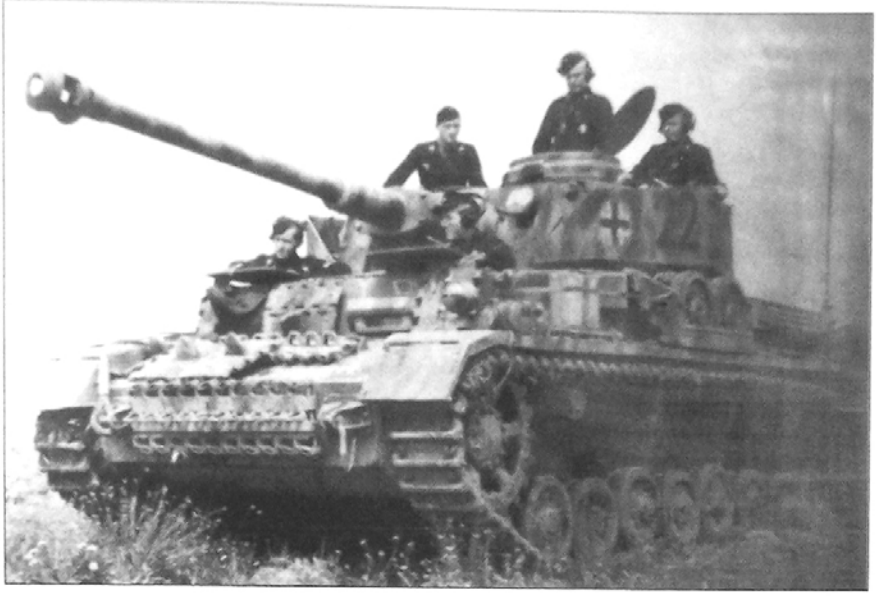
A group of Pz.Kpfw.IV Ausf.Gs pause outside of a fairly large town. The nearest Panzer can be identified as an Ausf.G (although the L/48 gun tube is obscured) by the gun cleaning staffs and bore swab (four, instead of two rods for the longer tube), and the rack for storing two road-wheels on the fender. This Panzer is also apparently a "true" Ausf.G since there is a Bosch black-out driving head-lamp mounted on the forward part of the fender. That it is an earlier Ausf.G can be seen by the location of the pivoting rod antenna (just past the opened turret-side hatch lids) and the split hatch lid arrangement on the commander's cupola. This Panzer also has a trailer hitch on the lower rear hull plate and a station-keeping tail-lamp assembly on the near-side fender, just above the mud flap. Other Panzer in this unit have been fitted with hull and turret Schürzen plates to counter enemy anti-tank rifles.



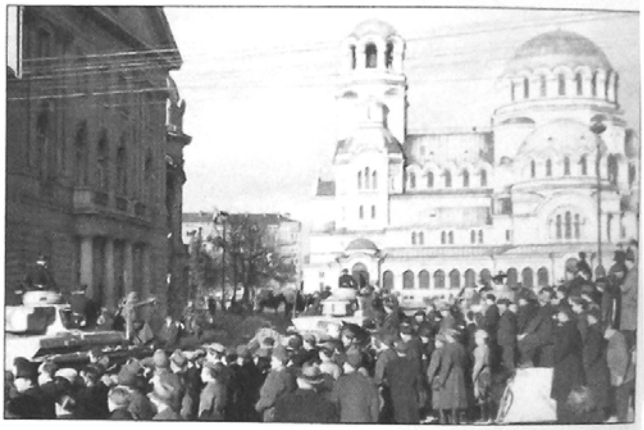
A pair of Panzer, one of which is a Pz.Kpfw.IV Ausf.G, makes their way into a city on the Ostfront. The near Panzer is certainly an Ausf.G as can be determined by the dished drive sprocket and the muzzle brake of the long 7.5cm KwK40 L/48 gun. Note the small nut at the top rear of the muzzle brake, which acted as a set screw to keep it properly attached to the threaded end of the gun tube. The far Panzer has a trailer hitch on the lower rear hull plate and a station-keeping tail-lamp assembly on the near-side fender, just above the mud flap.



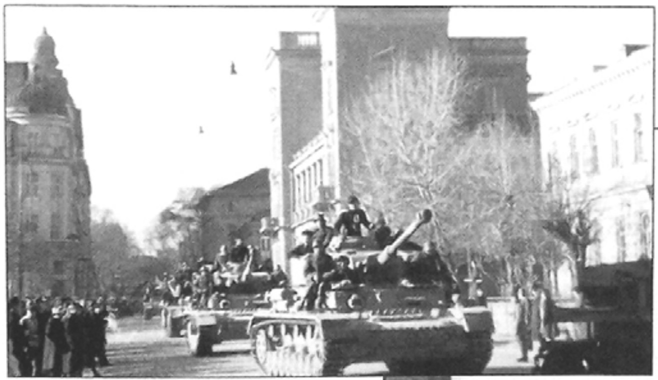
This photograph of a Pz.Kpfw.IV Ausf.G shows several interesting details of the turret roof. Foremost is the commander's cupola with the early pattern two-piece hatch lids; note how the armored covers for the view slit slide upwards, as well as the small drainage holes around the rim. Below the cupola is a circular bullet/fragment splash plate, which protected its base from enemy fire. There are brackets to hang Schürzen bolted to the roof plate. Finally, note how thin the cover plate for the roof-mounted vent fan is; this was later thickened, as was the rear of the turret roof plate.

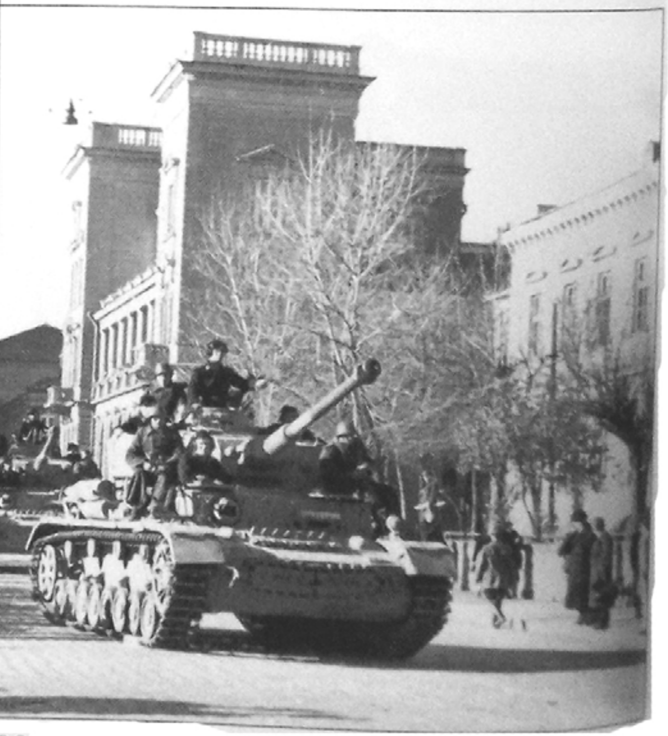


This "apparently" late Pz.Kpfw.IV Ausf.G sho several features, which may indicate that it is in f a very early Ausf.H. The primary reason for this that it would appear that the superstructure and h front plates are based on 80mm-thick armor, rath than 50mm plates with 30mm Zusatzpanzeru (appliqué armor). Other Ausf.H features are t single Bosch black-out driving head-lamp and t vertical stowage of the two "C"-shaped tow hoo next to it. Late Ausf.G features that were standa on the Ausf.H also include the single-piece hatch on the commander's cupola and the mounting of th rod antenna on a flexible rubber base at the por side rear corner of the superstructure. The on major feature on this Panzer that indicates it coul be an Ausf.G is the drive sprocket and i associated final drive housing. However, earl Ausf.Hs were built with this assembly, while it is als possible that this was a replacement mounted by front-line workshop unit, or when the Panzer wa returned for an overhaul. This Panzer, fron Panzerregiment 25, 7. Panzerdivision, is the subjec of a color plate in this book.

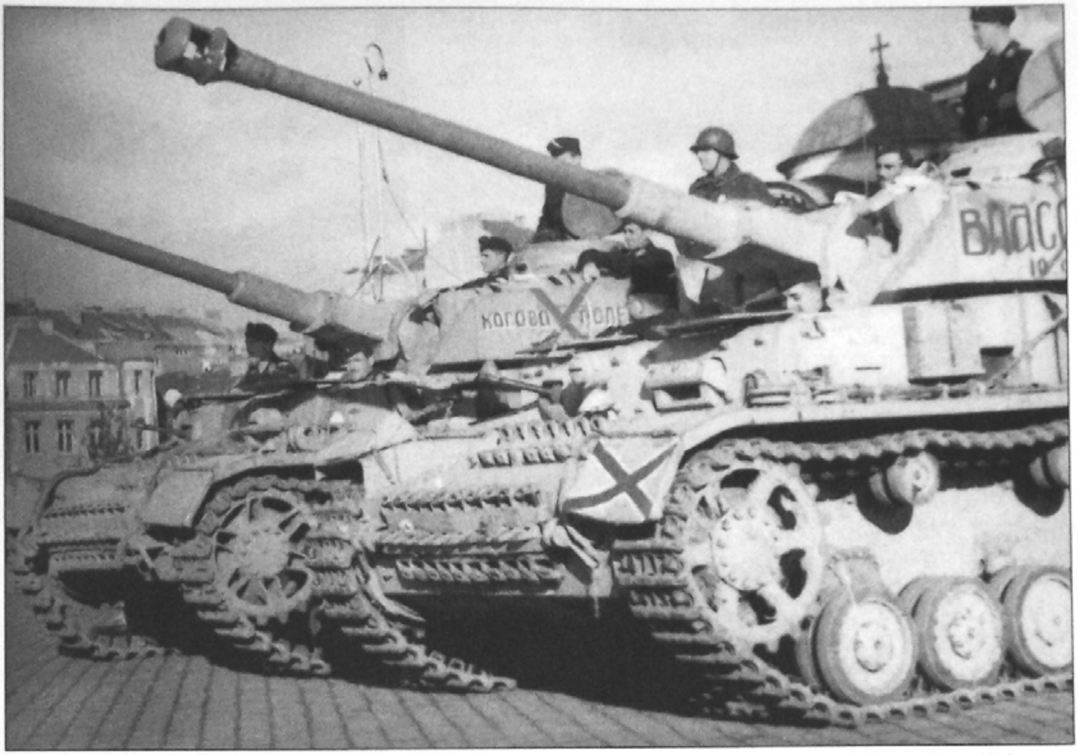


By March 1944 Bulgaria acquired 97 Pz.Kpfw.IVs from Germany, mainly Ausf.Gs and some Ausf.Hs. They were designated as "Maybach T-IV" (the author may add a "G" or "H" to each designation as a convenience; this may not be strictly correct) and equipped the 1st Tank Regiment of the 1st Armored Brigade. Here a pair of Ausf.Gs participates in a parade in Sofia in December of 1944. The near Panzer has the rod antenna on a pivoting mount on the starboard side of the superstructure (original position on the Ausf.G), while the far one has its rod antenna on the flexible rubber base on the port side at the rear corner (subsequent position on later Ausf.Gs).

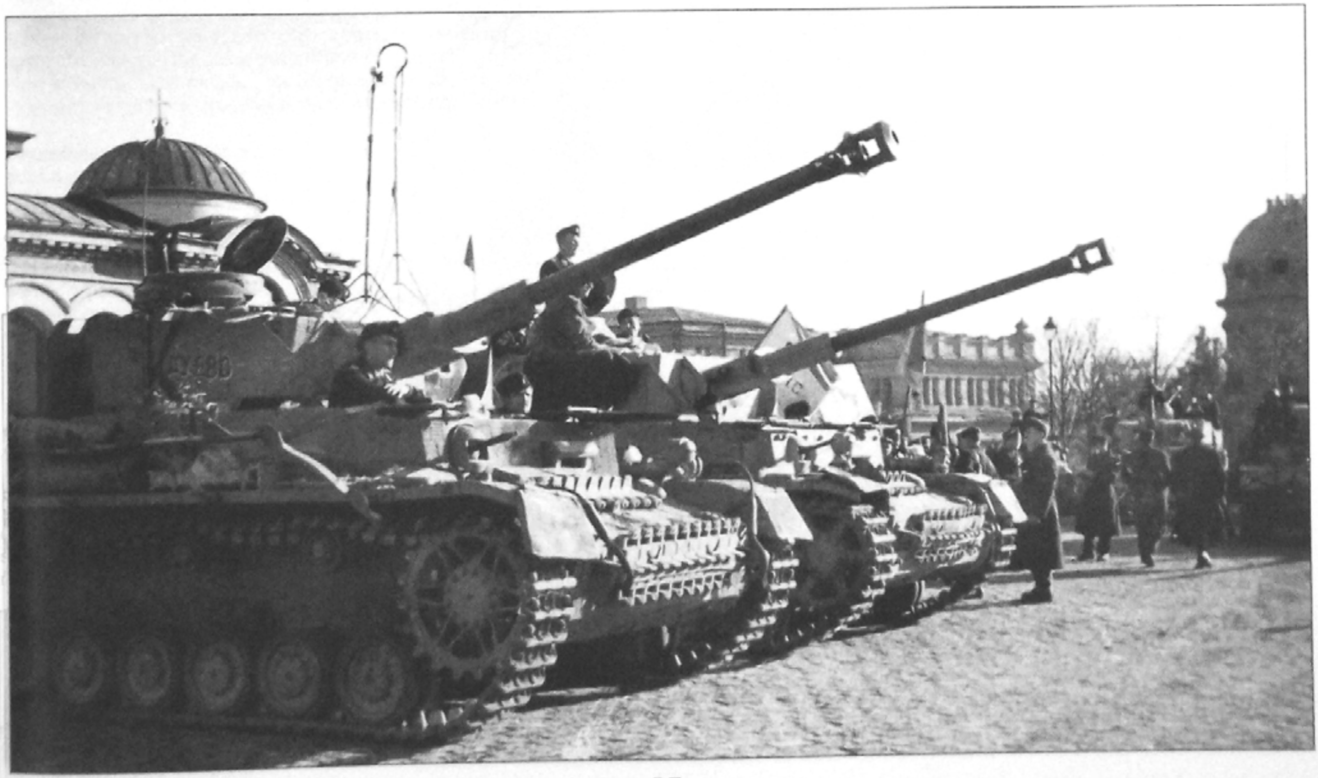




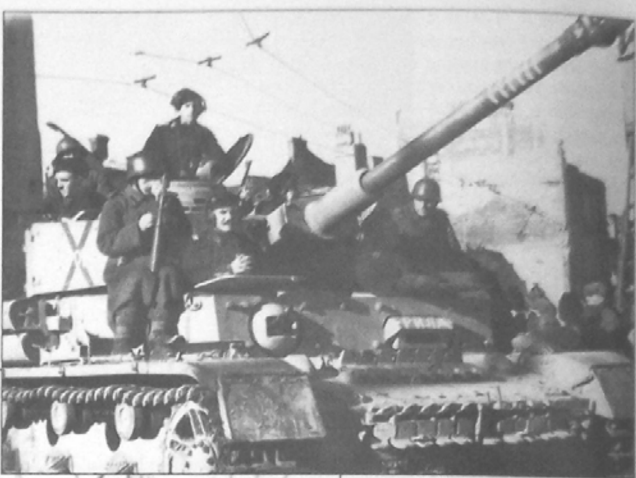
These two photographs depict a line of Bulgarian Maybach T-IVs (Ausf.G and H) moving in column during the same parade in Sofia. The Panzer are all in their original German paint finish, overall Dunkelgelb RAL 7028, and although the angle of the light washes them out, there are black St. Andrew's crosses on the sides and rear of the turret Schürzen. The first Panzer has the reinforced final drive and sprocket first seen on the Ausf.H, but has the bolted-on 30mm Zusatzpanzerung (appliqué armor) seen on some Ausf.Gs. It appears that most, if not all of these Panzer have the Filzbalgfilter (external cylindrical air filters) mounted on their starboard-side fenders. Where visible, all have the later single-piece hatch lid on the commander's cupola.

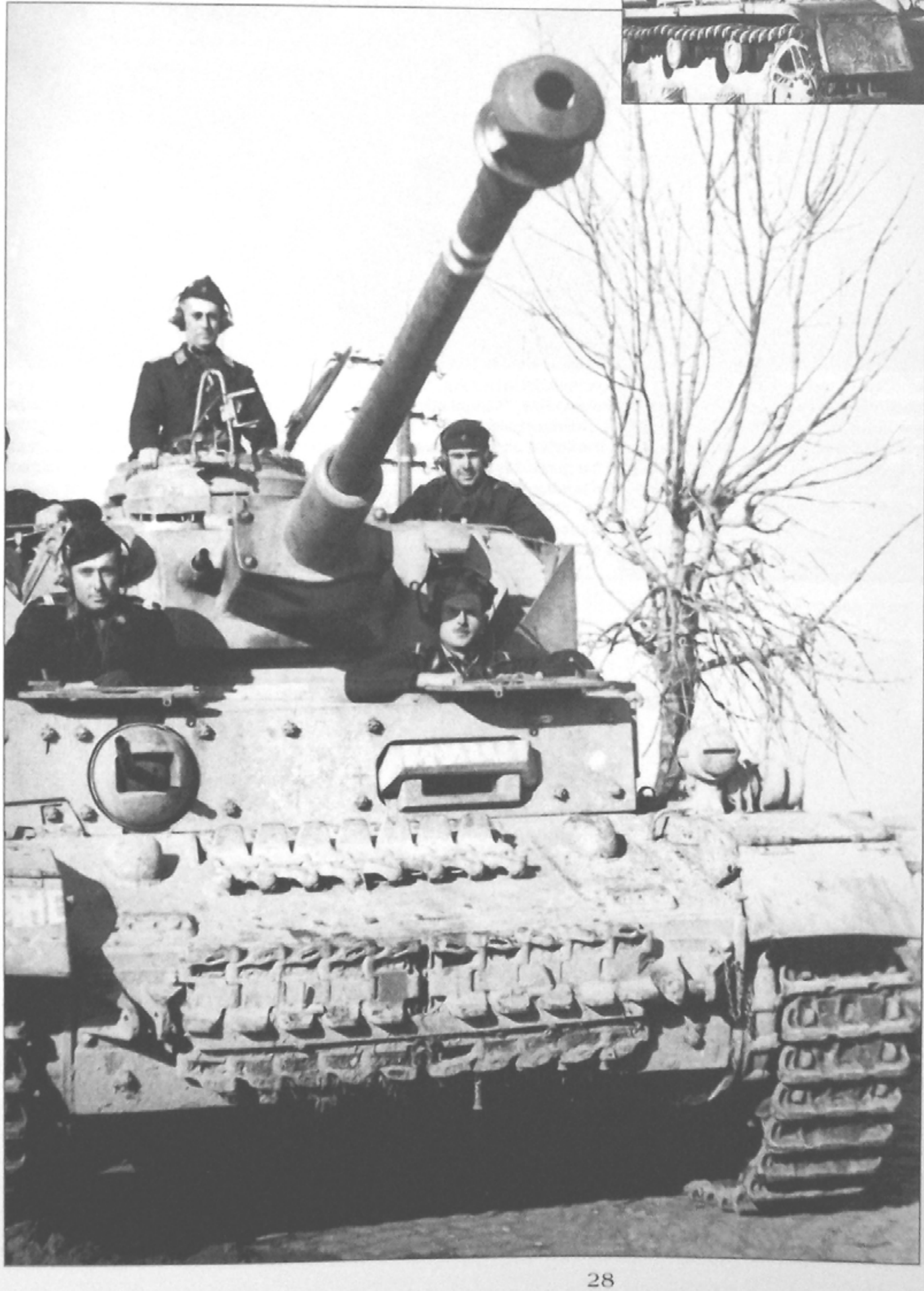


This pair of photographs allow for two different views of the same pair of Bulgarian Maybach T-IVs, one with features of the Ausf.G, the other with features of the Ausf.H. In the first photo, the markings are readily visible on these Dunkelgelb RAL 7028-painted Panzer. They include black crosses of St. Andrew as well as names of famous battles written in Cyrillic characters in various places. The near Panzer in this photo has features typical of the Ausf.G including: the original drive sprocket/final drive combination, rubber-tired return rollers, and the bolted-on 30mm Zusatzpanzerung (appliqué armor) on the superstructure front. Note the Bosch head-lamp mounted in an unusual position, centrally on the glacis. Note also how the stowage of the two "C"-shaped tow hooks differs on the two Panzer, with the far pair (behind the Bosch head-lamp in the normal position) being in the upright position. In the second photograph, the Ausf.H can be identified by the drive sprocket/final drive combination (it has the later all-steel return rollers) as well as the single 80mm armor plate on the superstructure front. It also has the Filzbalgfilter (external cylindrical air filters) mounted on the starboard-side fender, as well as mounting frames for the missing hull Schürzen. Both Panzer have turret-mounted Schürzen as well as the later single-piece hatch lid on the commander's cupola.

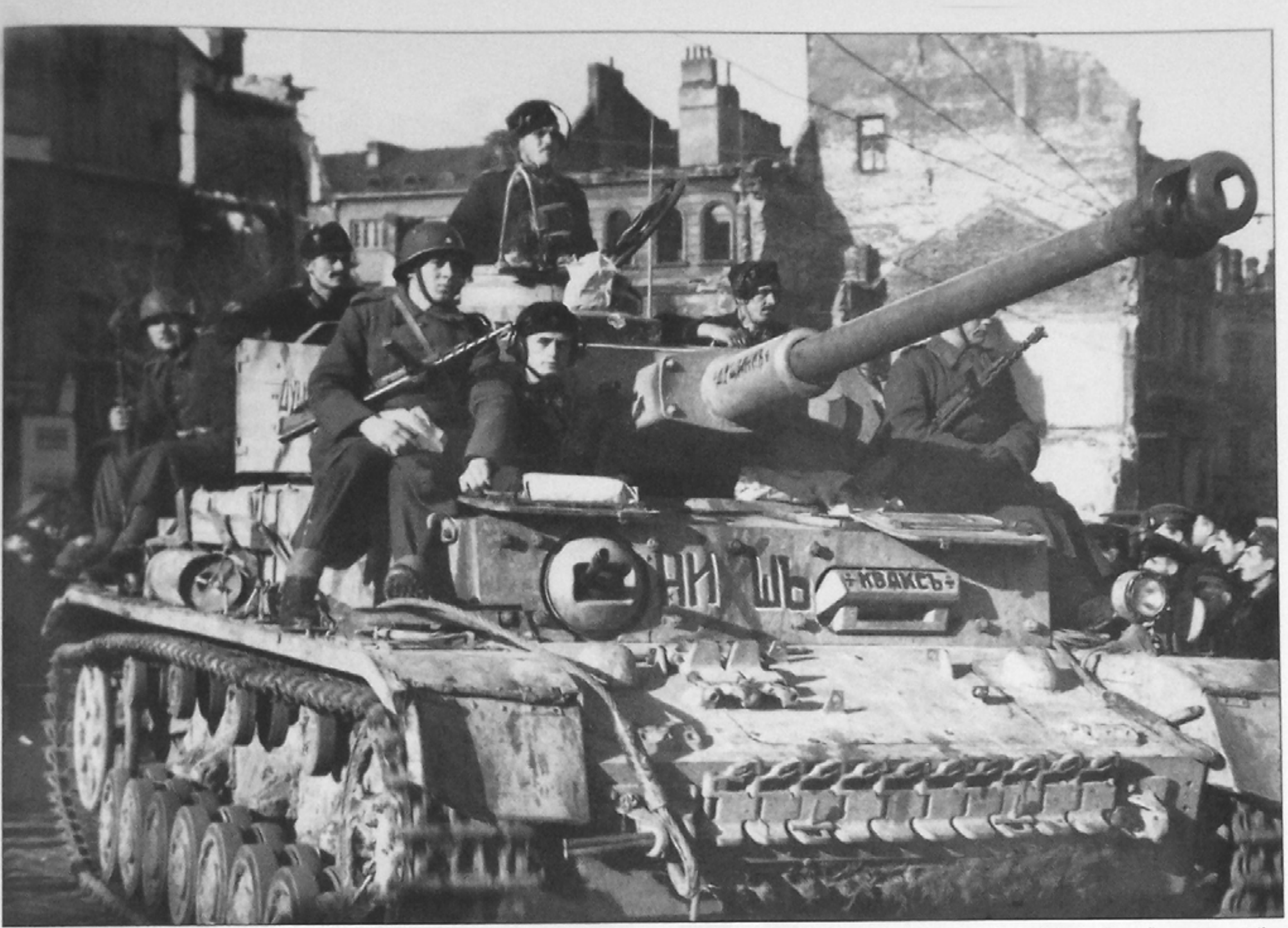


This Bulgarian Maybach T-IV also has features of both the Pz.Kpfw.IV Ausf.G and Ausf.H. It has the reinforced final drive housings and their associated drive sprockets, as well as the vertical stowage of the "C"-shaped tow hooks associated with the Ausf.H; note that the return rollers have rubber tires in their rims. The bolted-on 30mm Zusatzpanzerung (appliqué armor) can be seen on the superstructure front, as well as the bow; this is a trait of the Ausf.G. The Filzbalgfilter (external cylindrical air filters) mounted on the starboard-side fender was also introduced with the Ausf.G, as was the single-piece hatch lid for the commander's cupola. The storage trough for the rod antenna was retained although in the case of this Panzer, the antenna itself was moved to the rear corner of the port-side of the hull and mounted on a flexible rubber base. This panzer also carries typical Bulgarian markings, consisting of the St. Andrew's Cross painted in black in various places, as well as names of famous battles. The gun tube has six stripes painted on it in white, whose significance is unknown.



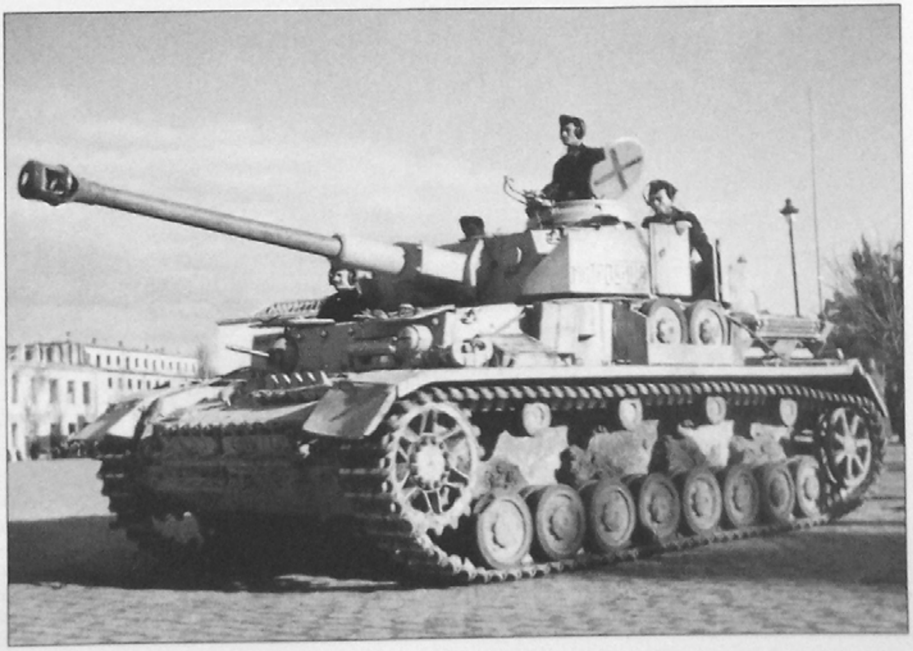


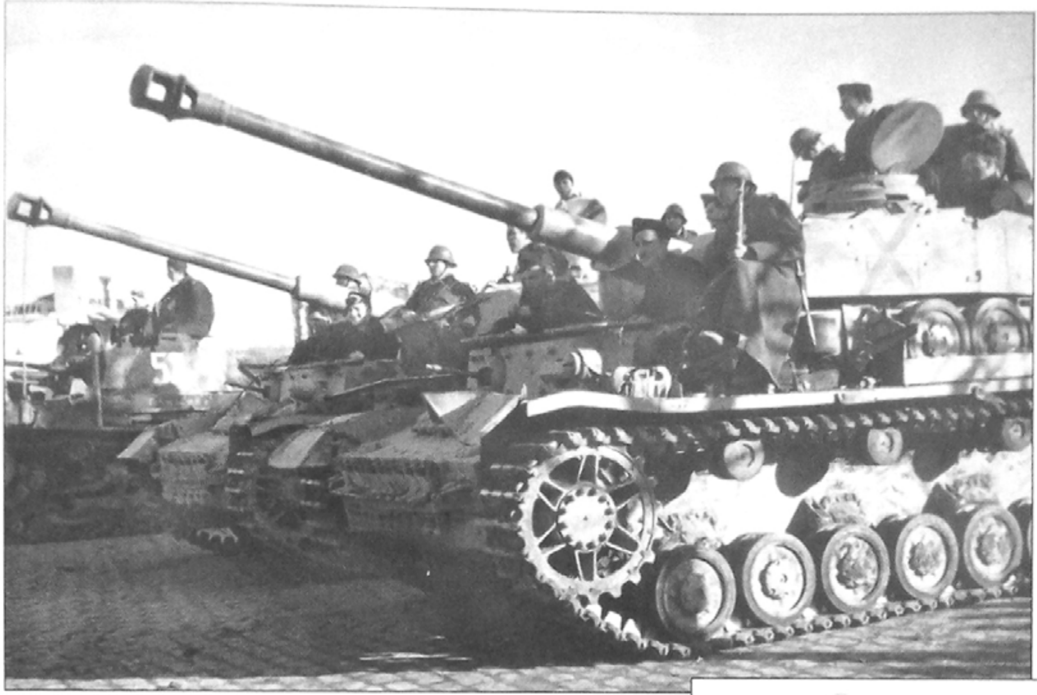
This Maybach T-IV has features of both the Pz.Kpfw.IV Ausf.G and Ausf.H. Although the drive sprockets cannot be seen, the reinforced final drives first seen on the Ausf.H, are mounted as can be seen by the style of their covers, which are visible between the tracks and the hull sides. The vertical stowage of the "C"-shaped tow hooks are also trademarks of the Ausf.H. The bolted-on 30mm Zusatzpanzerung (appliqué armor) can be seen on the superstructure front, as well as the bow. Note how the plate separates around the radio-operator's MG34 mount. These are features normally associated with an Ausf.G. Interestingly, the 7.5cm KwK40 L/48 gun tube features two rings behind the muzzle brake, and the commander's cupola mounts the Fliegerbeschußgerät (anti-aircraft mount) for an MG34.



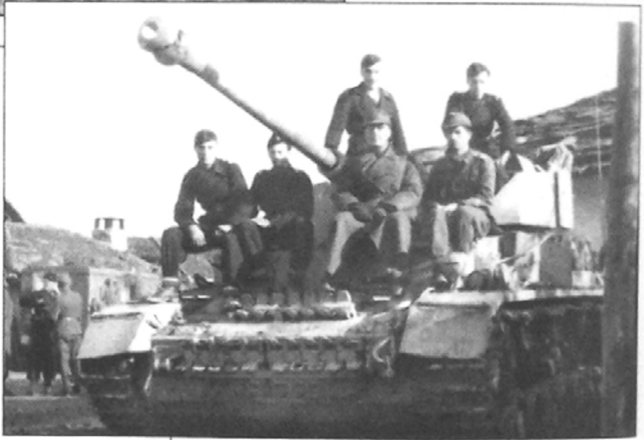
This Maybach T-IV has features of both the Pz.Kpfw.IV Ausf.G and Ausf.H. It mounts the drive sprockets and the reinforced final drives first seen on the Ausf.H. The "C"-shaped tow hooks are also stowed in the vertical position and there is only one Bosch head-lamp (seen here without its cover), which are also trademarks of the Ausf.H. The bolted-on 30mm Zusatzpanzerung (appliqué armor) can be seen on the superstructure front, but the bow appears to be a single 80mm-thick plate (also note the partially missing tow shackle on the port-side). This photo also offers a good view of the brackets used to store seven spare track links on the glacis plate. The commander's cupola mounts the Fliegerbeschußgerät (anti-aircraft mount for an MG34). This Dunkelgelb RAL 7028-painted Panzer exhibits typical markings such as St. Andrew's Crosses and names of famous battles; in this case the latter are seen on the sleeve for the main gun, the driver's visor, the superstructure front plate and the turret Schürzen.

Yet another Bulgarian Maybach T-IV from the same parade sequence displays features of both the Pz.Kpfw.IV Ausf. G and Ausf.H. The commander's cupola mounts the Fliegerbeschußgerät (anti-aircraft mount for an MG34) and has a single piece lid for the hatch. The superstructure front plate has bolted-on 30mm Zusatzpanzerung (appliqué armor) of the Ausf.G, but shadows obscure what type of armor is on the bow plate. The final drive and drive sprocket combination are from the Ausf.H, while the return rollers have rubber tires on the rims. The Bosch head-lamp position and the vertical storage of the "C"-shaped tow hooks are also features of the Ausf.H The gun tube seems to be finished in a different, darker color than the rest of this Panzer, which itself is painted in a base coat of Dunkelgelb RAL 7028. Sources indicate that paint used on gun tubes was of a different formulation (although it was the same color), which may account for this apparent difference. Or, the gun tube could be finished in Rot RAL 8012 primer. This Panzer has the St. Andrew's Cross painted in several positions, including the hatch lid on the commander's cupola.

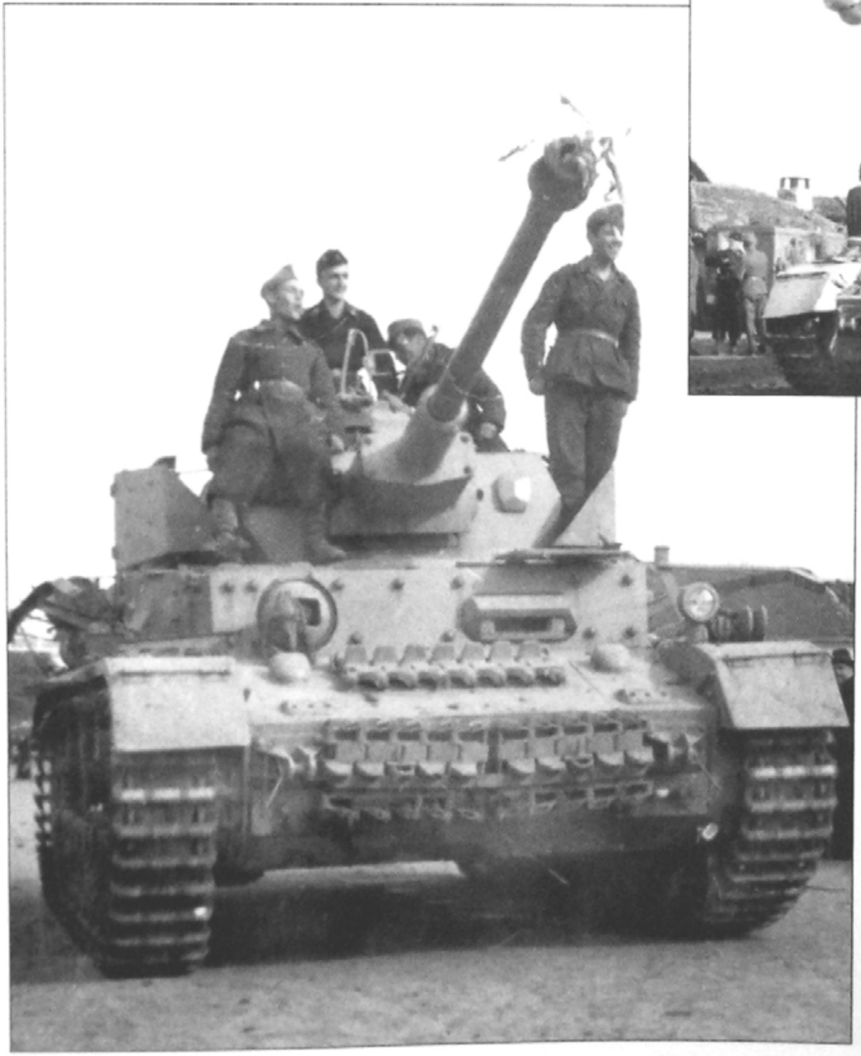




This last photo of Bulgarian Maybach T-IVs taken in Sofia shows yet more of the typical features of these "hybrids". Both have the drive sprocket/final drive combination of the Ausf.H, but they also have the bolted-on 30mm Zusatzpanzerung (appliqué armor) of the Ausf.G. The third Panzer is a Škoda LT vz.35 light tank, called Pz.Kpfw.35(t) in German service and T-11 by the Bulgarians. It is painted in an olive green color and has Tac numbers (52) and the St.Andrew's Cross in white on the turret sides. Uniquely, this Panzer is equipped with the later 3.7cm main gun (Kanón Škoda A7) as seen on the ten vehicles of this type originally built for export to Afghanistan, but confiscated by Germany and later sold to Bulgaria.

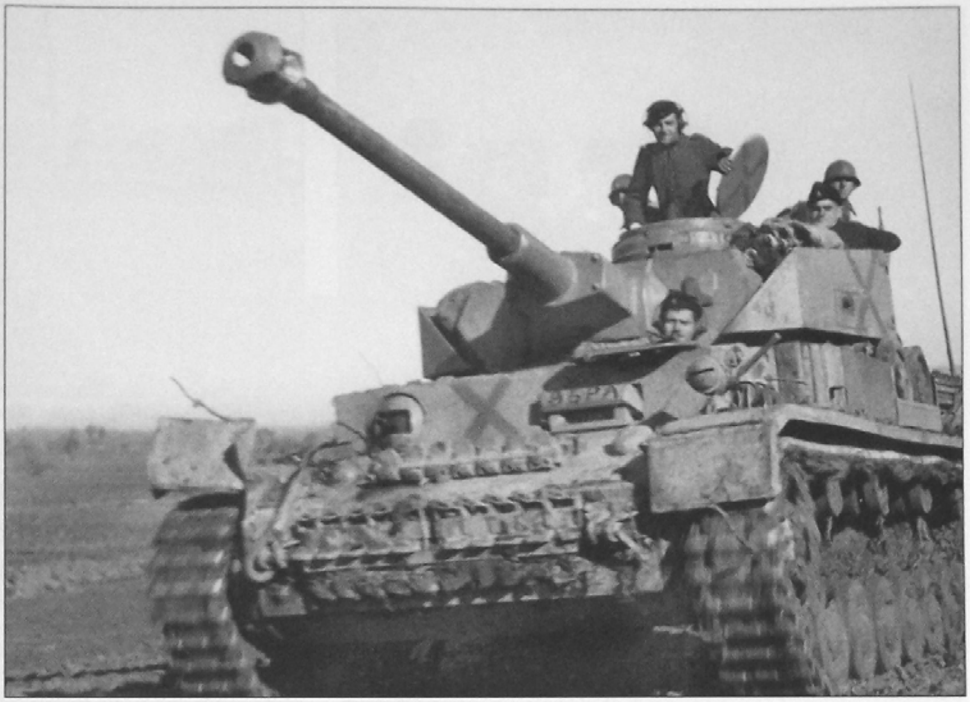


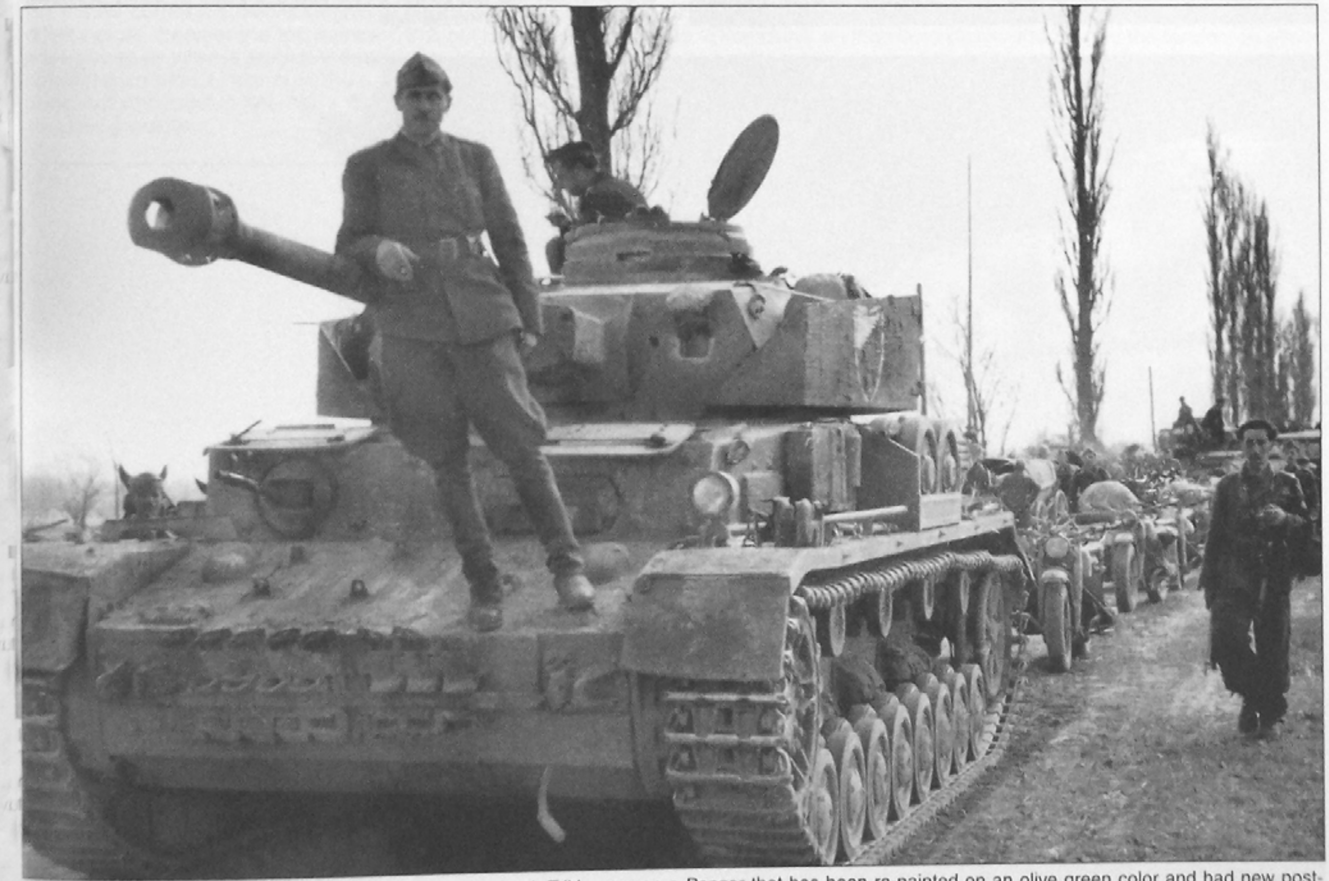
This Bulgarian Maybach T-IV is seen in a small town, with members of the crew and some others posing for the photographer. This Panzer exhibits all of the features seen on these Bulgarian vehicles, including bolted-on 30mm Zusatzpanzerung (appliqué armor) of the Ausf.G and the drive sprocket/final drive combination of the Ausf.H.



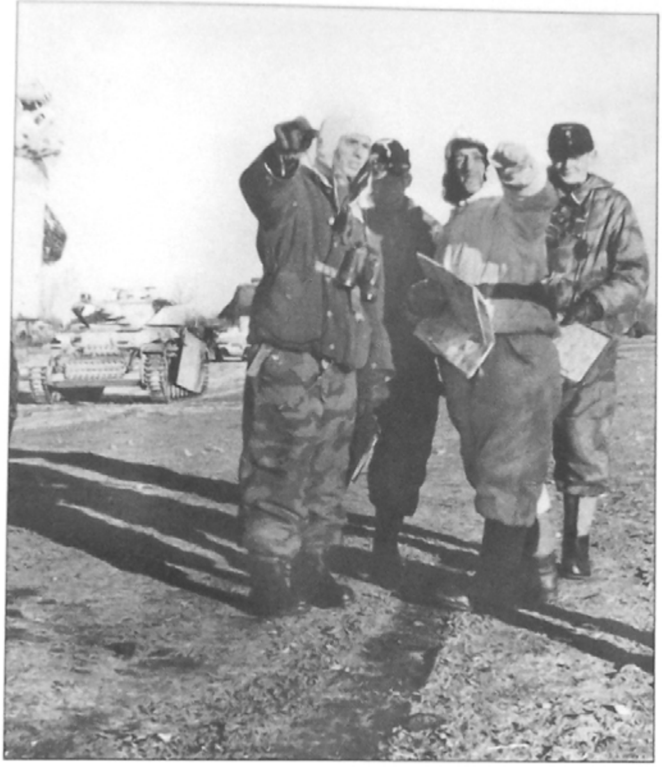
This very un-cluttered Maybach T-IV stands ready to move out as its crew awaits orders. Aside from typical features of these Bulgarian Panzer, this one also has frames for hull-mounted Schürzen. There are no special markings visible as they seem only to have been used in the Sofia parade; no Crosses of St. George are seen anywhere on this particular Panzer.

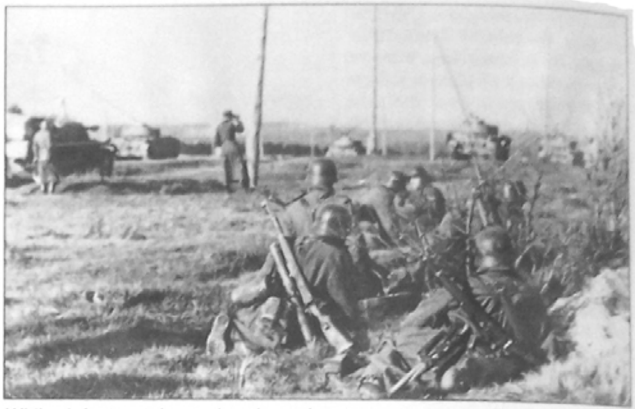
This Bulgarian Maybach T-IV can probably be said to be a "true" Pz.Kpfw.IV Ausf.H. Note that the superstructure front plate is a single 80mm-thick plate and that the Panzer also mounts the drive sprocket and reinforced final drive introduced on the Ausf.H. It has the single-piece hatch lid on the commander's cupola and the rod antenna is mounted on the flexible rubber base at the rear corner of the superstructure, on the port-side. Stowage includes a bracket (empty in this photograph) to store the "C"-shaped tow hooks in the upright position, a tray to store two road-wheels on the fender, a single Bosch head-lamp on the fender, and brackets to store seven spare track links on the glacis plate. This Panzer is marked with the St. Andrew's Cross in typical positions (including the commander's cupola hatch lid) and also has a railroad shipping data plate stenciled on the near-side turret Schürzen, in black. It is the subject of a color plate in this volume.





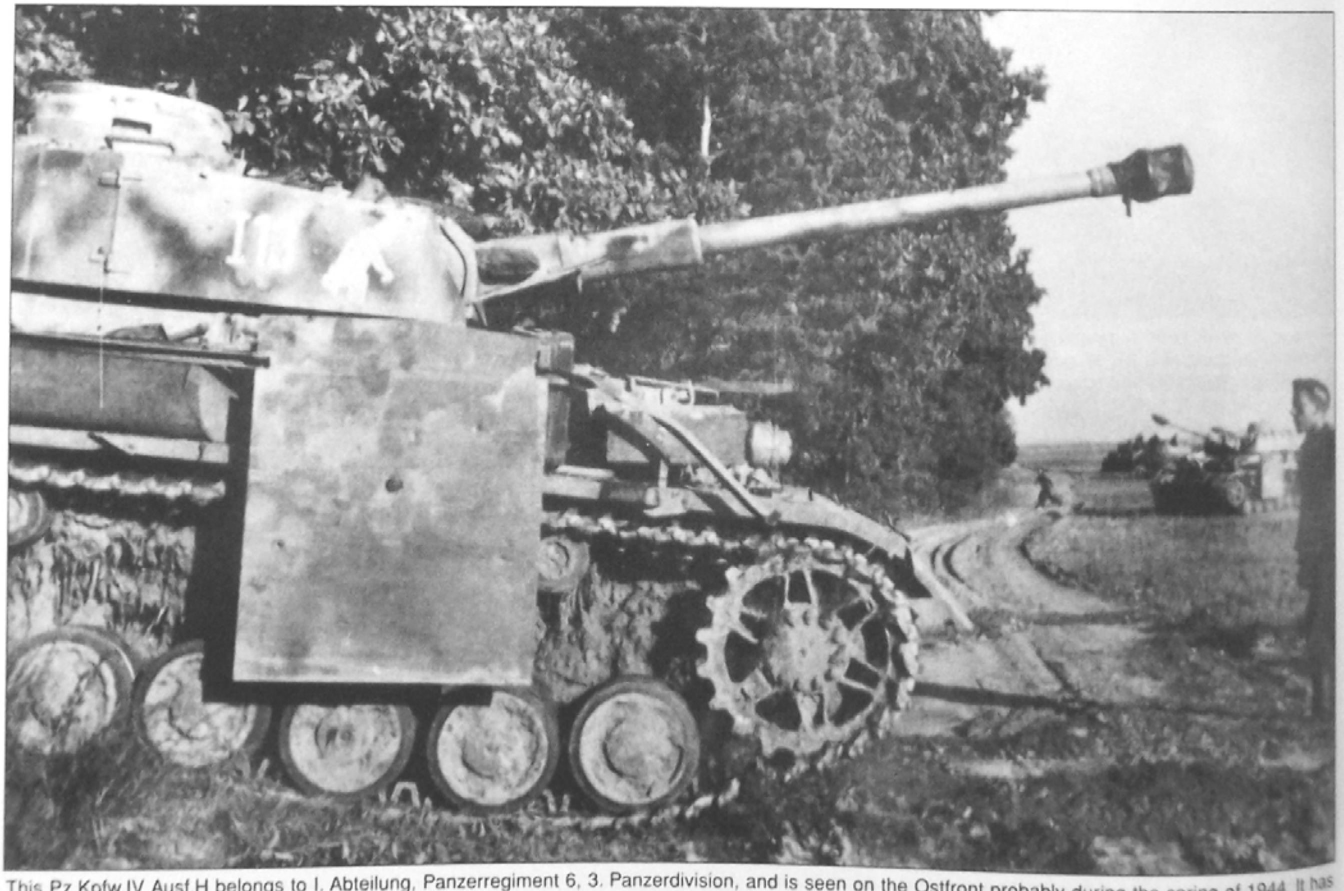
In this final photo of this series depicting Bulgarian Maybach T-IVs, we see a Panzer that has been re-painted on an olive green color and had new post-Tsarist government markings. The shield seen here on the superstructure front plate and the turret Schürzen is colored, from top-to-bottom: white, green and red. This Panzer has the combination of features seen on all of these Bulgarian T-IVs, including: reinforced final drive and its associated drive sprocket from the Ausf.H, bolted-on 30mm Zusatzpanzerung (appliqué armor) on the superstructure and bow front plates, single-piece hatch lid on the commander's cupola, and rod antenna on a flexible rubber base at the rear corner of the port-side superstructure (features introduced on later Ausf.Gs). Unique among all of these Bulgarian Maybach T-IVs, this Panzer also has a coating of Zimmerit applied to some surfaces to prevent attachment of magnetic anti-tank mines.



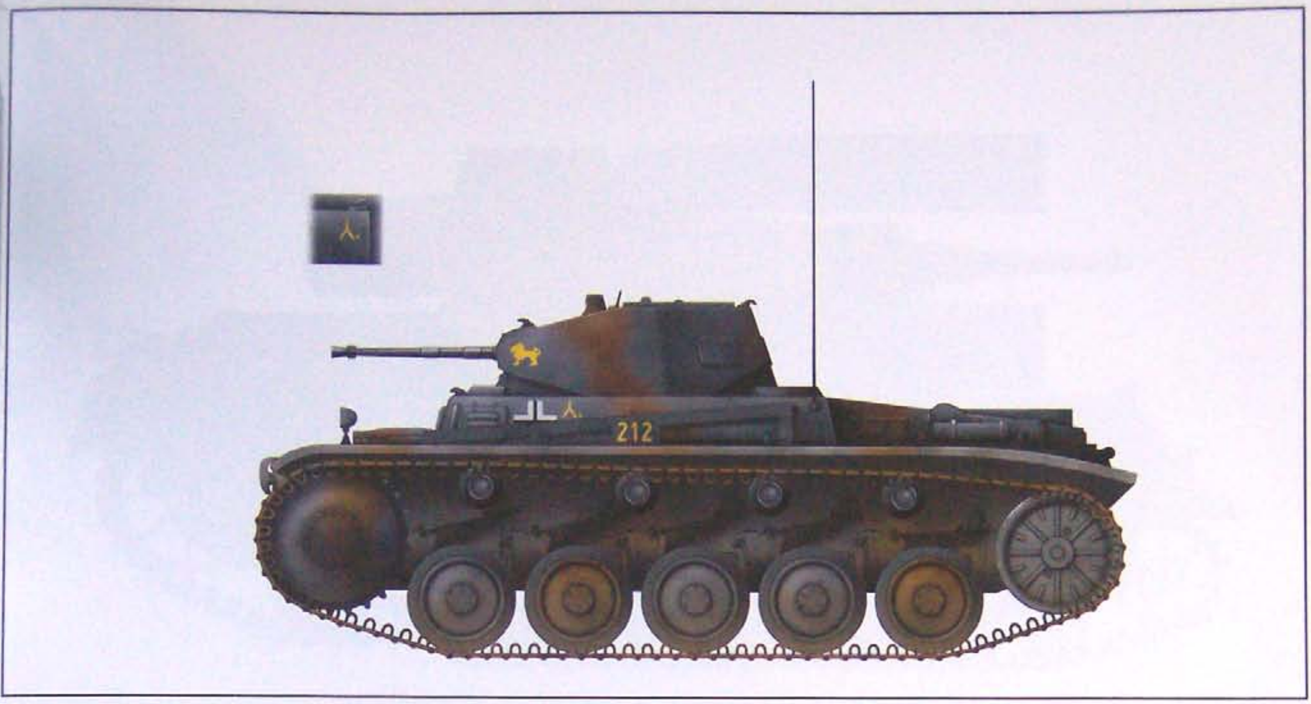


While infantry take a break under some cover, a Zug (platoon) of Pz.Kpfw.IVs (probably Ausf.Hs, and what appears to be a StuG.IV) waits dispersed along a road. From this distance it is impossible to accurately determine if these are in fact Ausf.Gs of Hs. The troops are from a machine-gun team, which can be determined by what appears to be a spare MG barrel container slung, along with a Kar98k rifle, over the shoulder of the man at center; note also the 7.92mm ammunition box on the ground next to his right arm.

A group of Heer (Army) officers consult with each other prior to an operation. They stand next to a Pz.Kpfw.V Panther, while just behind them is a Pz.Kpfw.IV Ausf.G. The white-washed Ausf.G can be identified as such by the split hatch lids on the commander's cupola. It wears Schürzen on its hull and turret and has spare track on the bow and glacis for added protection and use in case of mine damage.

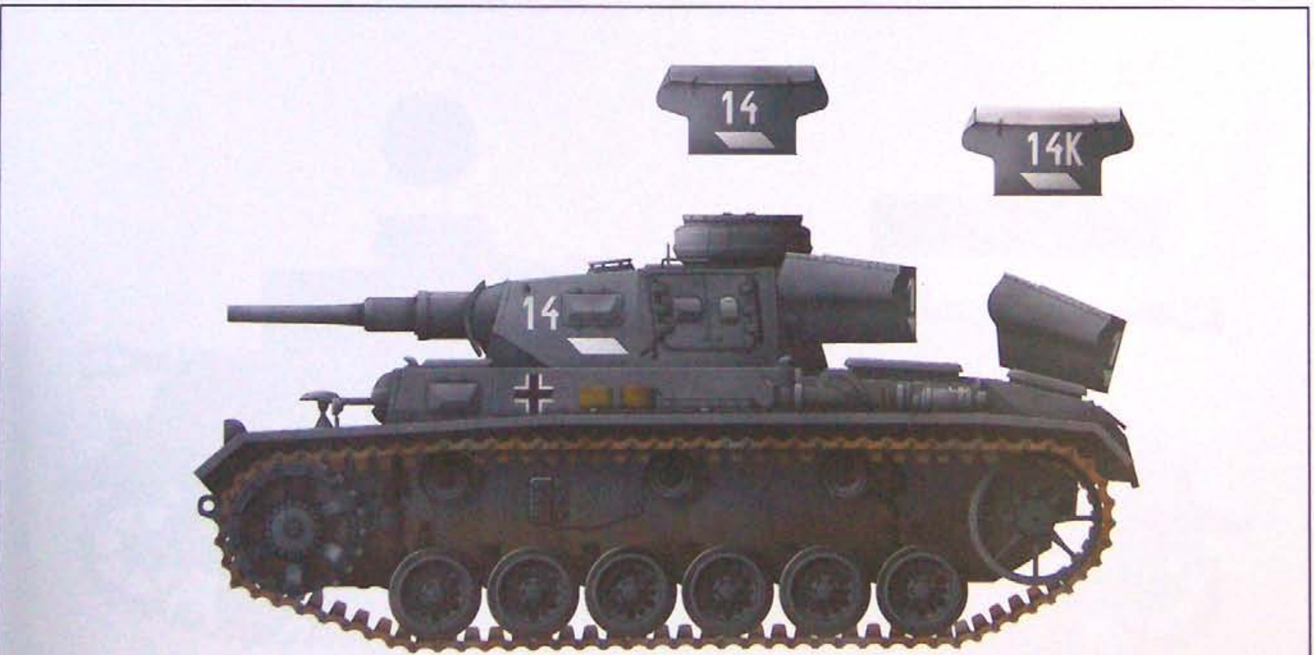


This Pz.Kpfw.IV Ausf.H belongs to I. Abteilung, Panzerregiment 6, 3. Panzerdivision, and is seen on the Ostfront probably during the spring of 1944. It has Tac markings (I13) designating it as a command Panzer of the I. Abteilung, and also wears the "Berlin Bear" unofficial division insignia on the turret Schürzen, both in white. This Panzer, like the Bulgarian vehicles previously seen, also exhibits features of both a late Ausf.G and early Ausf.H; the most noticeable being the reinforced final drive and drive sprocket. The hull Schürzen has the earlier style of hanging frames (first seen on the Ausf.G in mid-1943), without the large triangular hooks. This Panzer is the subject of a color plate in this book.



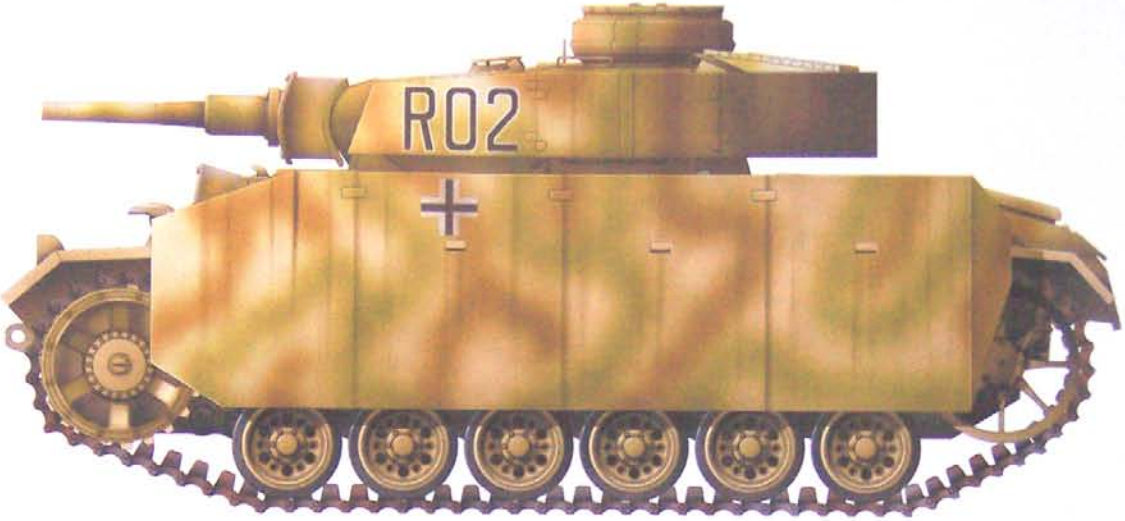
Pz.Kpfw.II Ausf.A, B or C of the 8. Panzerbrigade, 5. Panzerdivision, Germany, early 1940

This Panzer carries the official insignia of the division, an inverted "Y" with a single dot in yellow paint on the superstructure sides and on the driver's plate. It carries the Tac numbers, 212, of Panzer number 2, 1. Zug, 2. Kompanie on rhomboid plates attached to the fenders on either side, as well as what is probably the insignia of Panzerregiment 15, (apparently a lion), on the turret sides in yellow. There is a black/white Balkenkreuz national insignia on the superstructure sides, just aft of the view-port. Colors are the two-tone system of Dunkelgrau Nr.46 (later the code was changed to RAL 7021). This was over-sprayed with Dunkelbraun Nr.45 (later RAL 7017) in patches, so it covered roughly 1/3 of the item being painted.



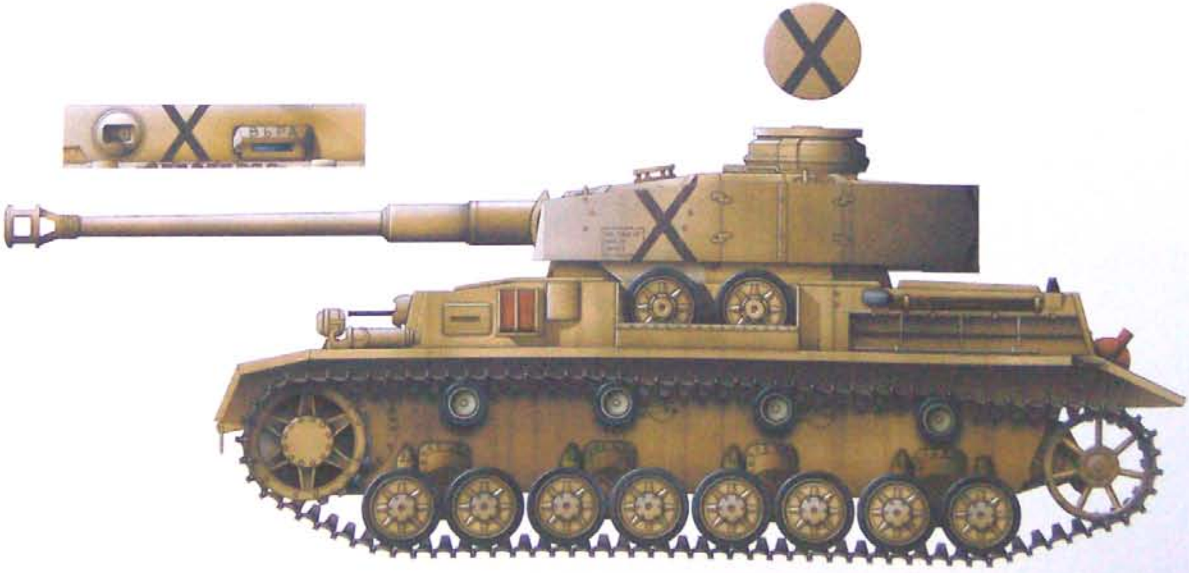
Pz.Kpfw.III Ausf.J, 11. Panzerdivision, Ostfront, 1942

Unlike many other Panzer from this company, there are no apparent "Ghost Division" markings, either official or un-official to be seen on this Ausf.J. A Panzer rhomboid is painted in white on both sides of the turret, below the view-port flaps, while a Tac number, 14, also in white, is painted forward of the flaps. The number is repeated on the turret bustle stowage bin, with another Panzer rhomboid below it. Similar to some other Panzer from this company, this one also carries an extra turret bustle stowage bin on the engine deck; it repeats the Tac number and Panzer rhomboid motif, with the addition of a white "K" for Panzergruppe von Kleist. A black/white Balkenkreuz national insignia is also seen on the superstructure side and rear plates. The base color is overall Dunkelgrau RAL 7021.



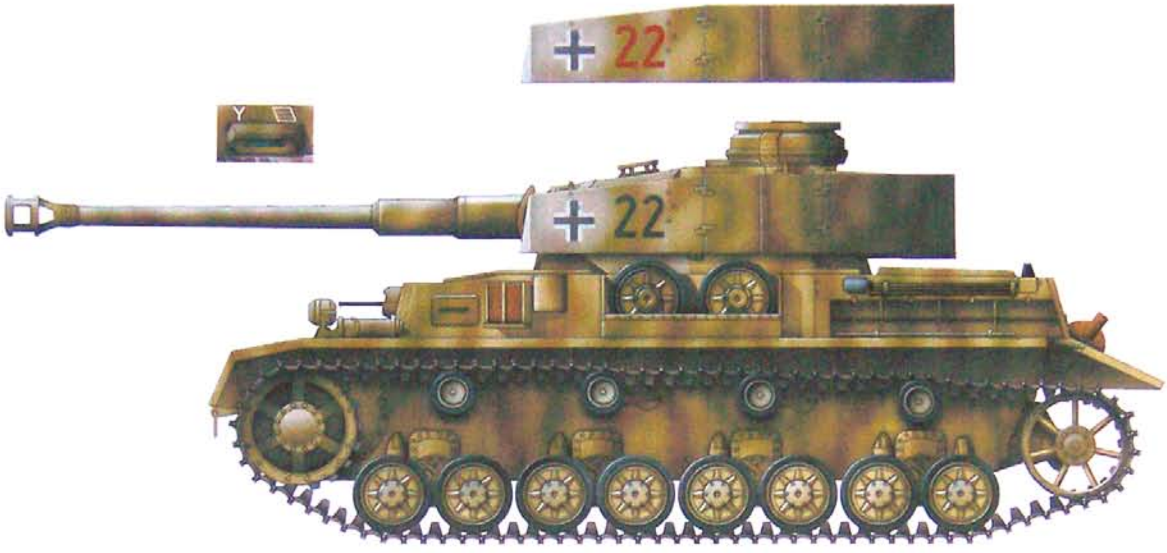
Panzerbefehlswagen mit 5cm KwK L/42 (Pz.Kpfw.III Ausf.J), un-identified unit, Ostfront, possibly spring or summer of 1943

This Panzer is finished in the three-tone scheme introduced in February of 1943, consisting of a base of Dunkelgelb RAL 7028 with a mottle pattern of Olivgrün RAL 6003 and Rotbraun RAL 8017. The Tac number, R02, indicates a regiment-level Befehlspanzer (command tank); it is black, with a white outline and is seen on the turret Schürzen sides, but not on the rear. A black/white Balkenkreuz national insignia is seen on the hull Schürzen plates.

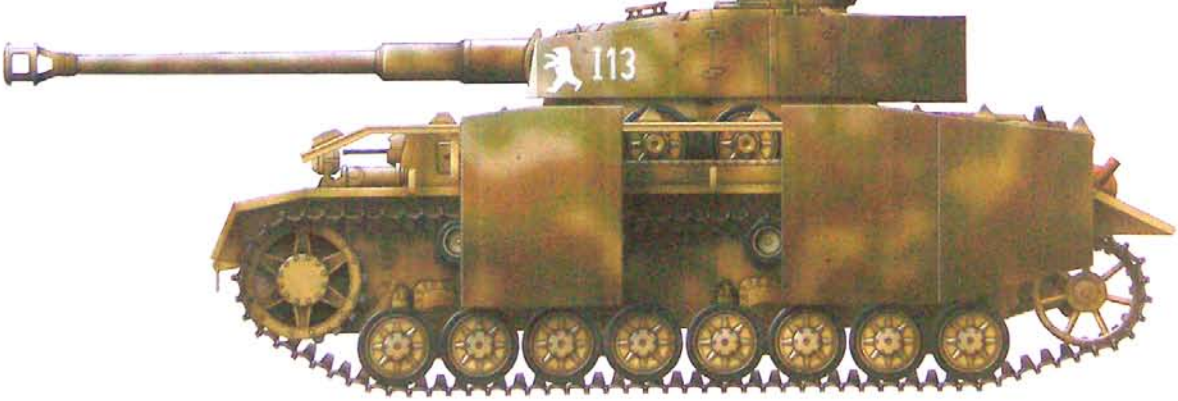


Maybach T-IV H (Pz.Kpfw.IV Ausf.H), Bulgarian 1st Armored Brigade, 1st Armored Regiment, Sofia, December 1944

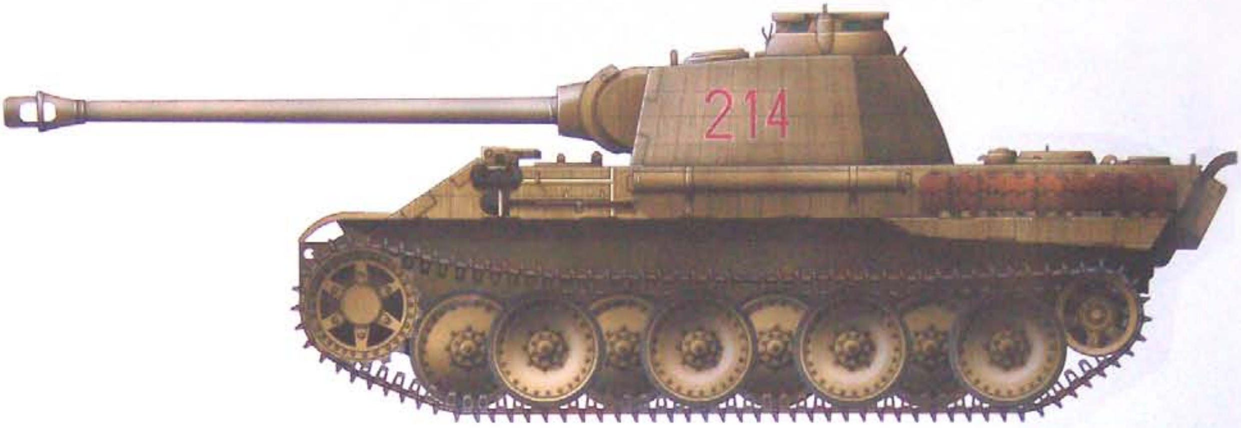
This Panzer is painted in the standard base color of Dunkelgelb RAL 7028 and has the St. Andrew's Cross painted in black on both sides, as well as the rear, of the turret Schürzen, on the superstructure front plate and on the hatch lid of the commander's cupola. This Panzer has the original German railroad shipping label stenciled in black on the forward side of the Schürzen. A rectangular registration plate was seen on the superstructure rear plate, on the left side, in white. It contained a Roman "B" (which was actually the Cyrillic "V", denoting "Voiska", or Army) followed by a five-digit number, which in this case is not known but could be in the B60250 to B60347 series.



Pz.Kpfw.IV Ausf.G late version, Panzerregiment 25, 7. Panzerdivision, Ostfront, summer/autumn 1944
This Panzer is painted in a base color of Dunkelgelb RAL 7028 with stripes and blotches of one or both secondary colors, Olivgrün RAL 6003 and Rotbraun RAL 8017. A black/white Balkenkreuz is painted on the turret Schürzen, on the forward-most portion, with a Tac number, 22, behind it, probably in black, but possibly in red (both versions are offered here). A small white-outline Panzer rhomboid is stenciled on the superstructure front plate, above the driver's visor; towards the center of the plate is the division's insignia, an upright "Y", also painted in white.

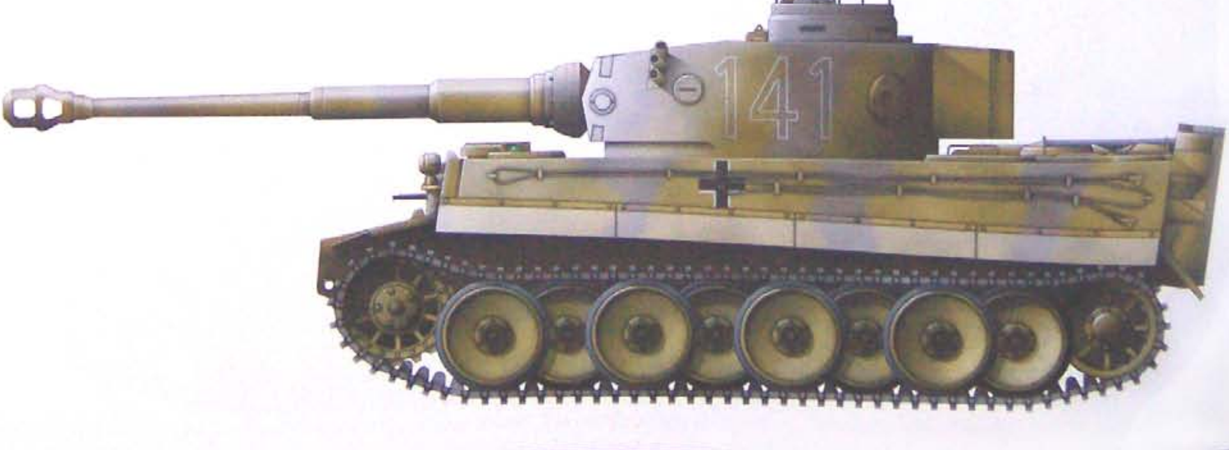


Pz.Kpfw.IV Ausf.H, I. Abteilung, Panzerregiment 6, 3. Panzerdivision, Ostfront, spring 1944
This early Ausf.H sports a base color of Dunkelgelb RAL 7028 with blotches and stripes of the secondary colors, Rotbraun RAL 8017 and Olivgrün RAL 6003. It has the Tac markings for a command Panzer of the I. Abteilung, 113, and the "Berlin Bear" unofficial divisional insignia on the turret Schürzen, in white.



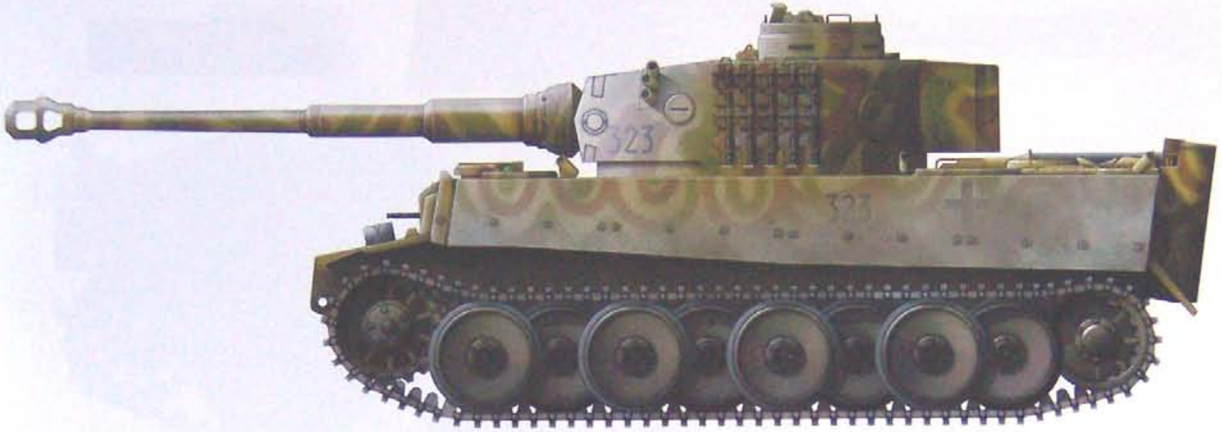
Pz.Kpfw.V Ausf.A, 2. Kompanie, I. Abteilung, Panzerregiment 4, Italy, summer, 1944

This early production Panther Ausf.A is covered in Zimmerit anti-magnetic mine paste, which has been over-painted with Dunkelgelb RAL 7028.The Tac numbers, 214, denote a Panther of the I. Abteilung, 2. Kompanie, 1. Zug, Panzer number 4. They are in red, outlined in white on the sides of the turret.



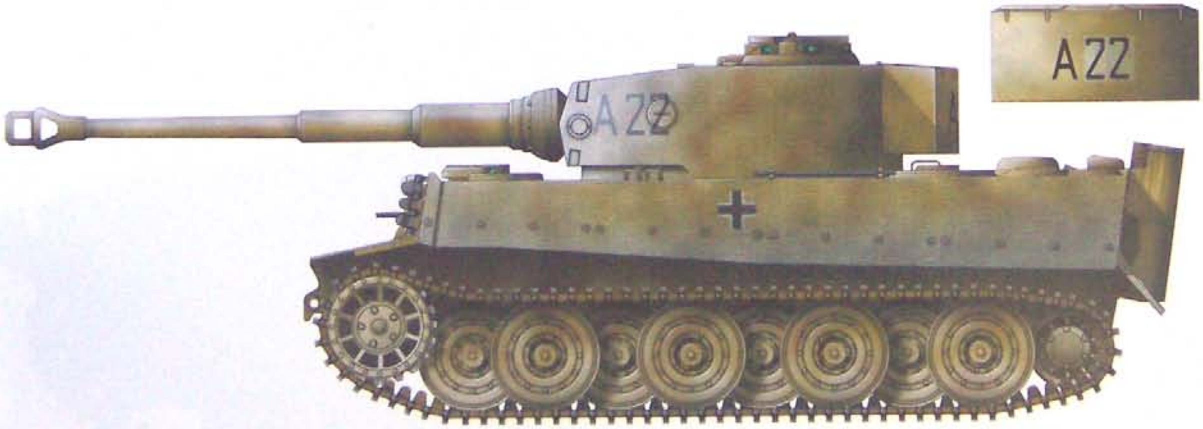
Pz.Kpfw.VI Tiger I, Heer (Army) s.Pz.Abt.501, Tunisia, early 1943

This early production Tiger Ausf.E is finished in the second version of the so-called "Tropen" (tropical) color scheme, which consisted of Braun RAL 8020 as the base with patches of Grau RAL 7027 covering the remaining 1/3 of the Panzer. The Tac numbers for a 1. Kompanie schwere Panzer consist of large, white outline numerals, 141, with the center left in the vehicle base colors. An over-sized Balkenkreuz national insignia consisting of a black center with white trim can be seen on the superstructure side plate, just above the fifth road-wheel station.



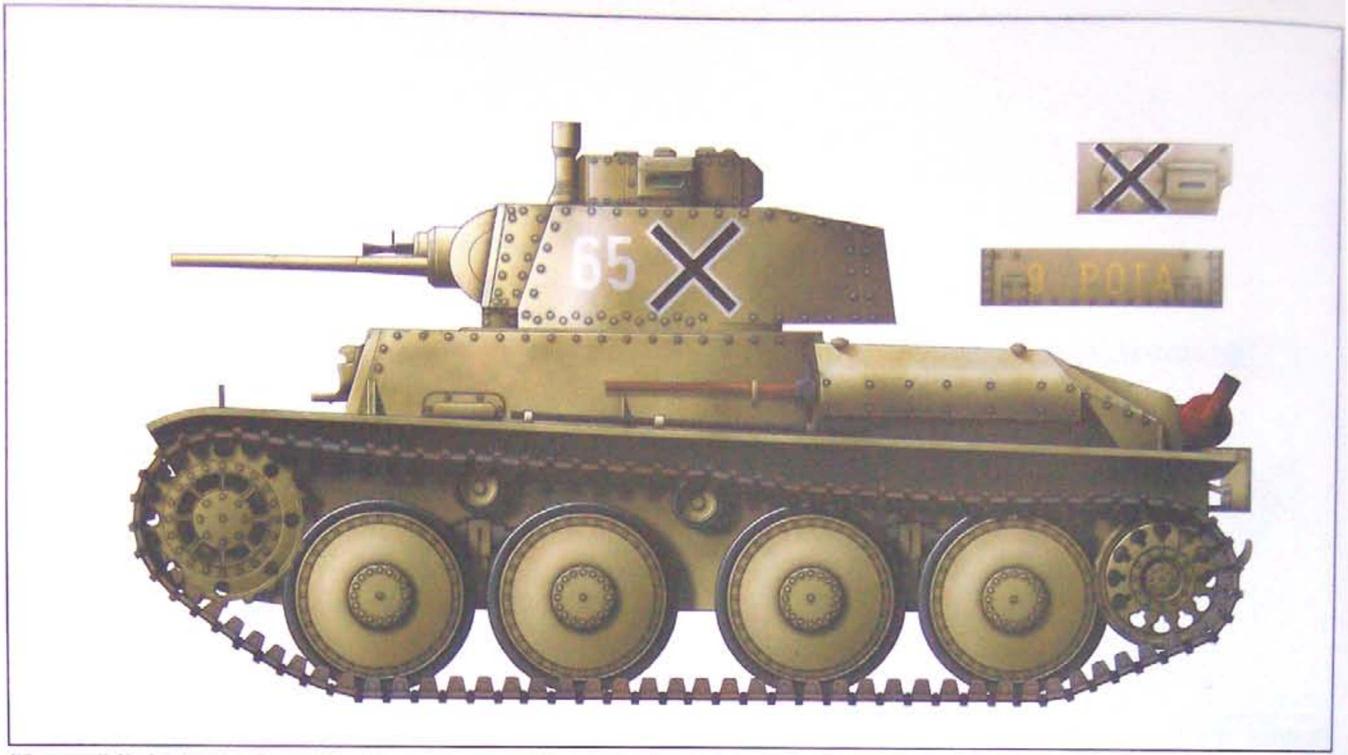
Pz.Kpfw.VI Tiger I, Heer (Army) s.Pz.Abt.502, Ostfront, Autumn 1943

This Tiger Ausf.E is finished in a base color of Dunkelgelb RAL 7028, with hand-painted bands of Rotbraun RAL 8017 and Olivgrün RAL 6003 applied in a rather unusual pattern on the hull, with broader bands on the turret. The Tac numbers, 323, are in five places, which was typical for the 3. Kompanie. They are: low on the forward edge of the turret, on the superstructure side, just aft of the center, and centered on the turret bustle stowage bin. The black/white Balkenkreuz national insignia is of the over-sized style and is placed relatively far back on the superstructure side, approximately at the division between the last two side skirts.



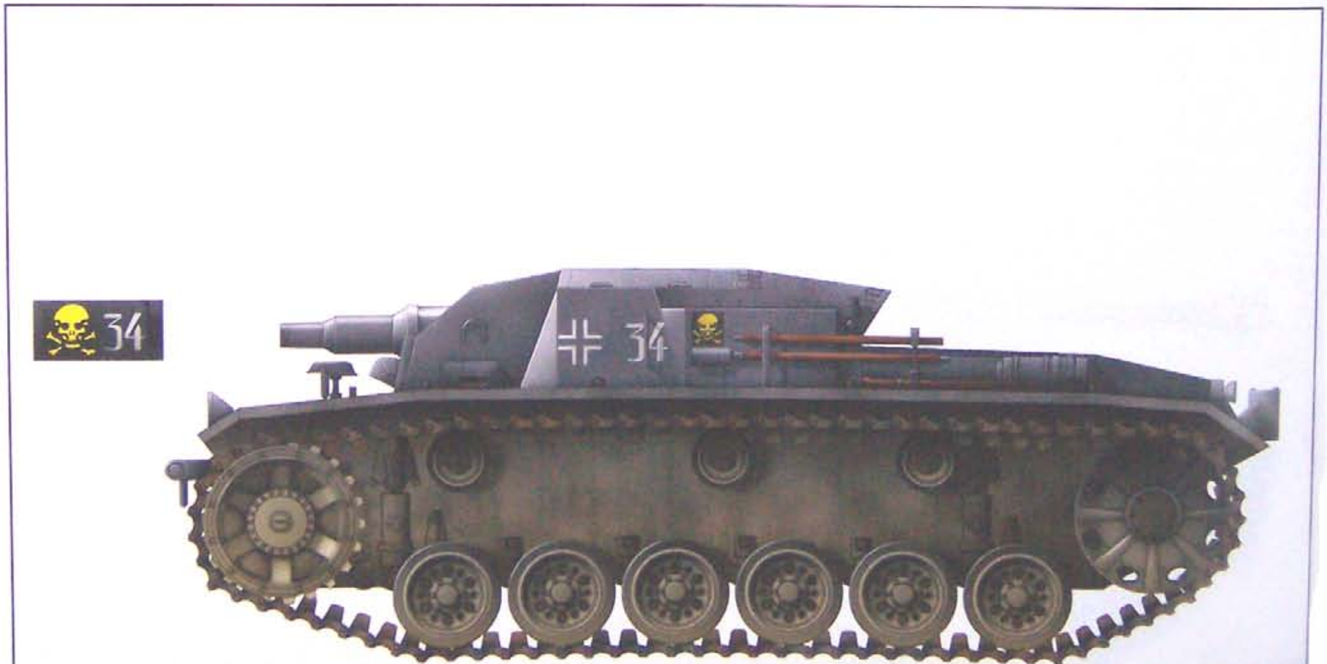
Pz.Kpfw.VI Tiger I late production version, III./Panzerregiment "Großdeutschland", Ostfront, July 1944

This élite division was the only Heer (Army) unit to incorporate an organic schwere Panzerabteilung, in this case as the third battalion of the Panzerregiment. This unit also used a unique Tac number system to designate the companies within the battalion, in this case "A" for the 1. Kompanie. The other two companies were "B" and "C", while the three battalion headquarters Tigers had an "S" prefix, "S01", "S02" and "S03". Each of the two company headquarters Tigers was prefixed by the company letter, for example, "A01" and "A02". These were large and painted on the turret sides as well as the bustle stowage bin in slender solid black characters. The black/white Balkenkreuz national insignia was the more usual size and was placed on the superstructure side plate, just forward of the rear end of the second side skirt. These late production Tigers were covered in Zimmerit and finished in overall Dunkelgelb RAL 7028, with a very light overspray of the secondary colors, Olivgrün RAL 6003 and Rotbraun RAL 8017.



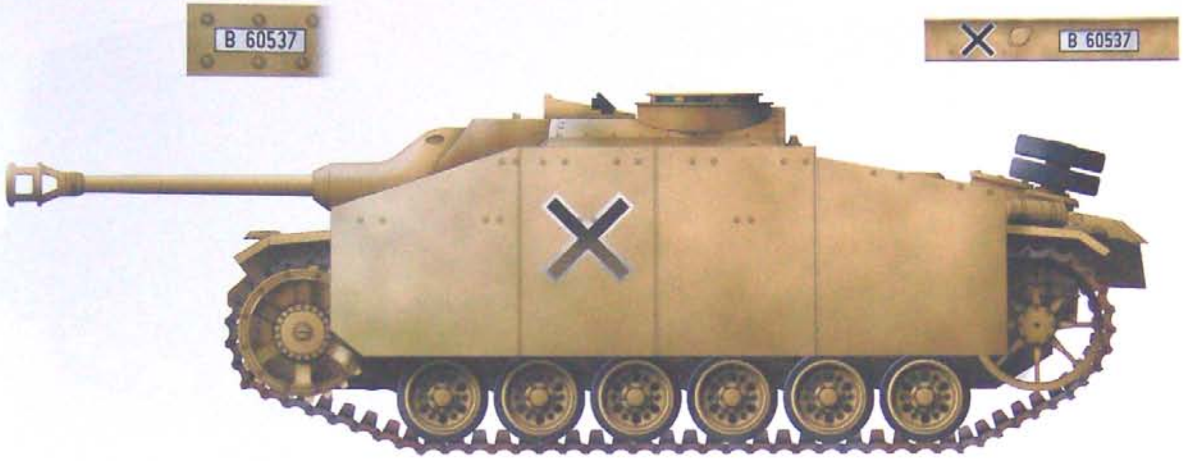
"Praga" light tank (Pz.Kpfw.38(t) Ausf.E, F or G), Bulgarian 1st Armored Brigade, 1st Armored Regiment, 3rd Battalion, 9th Company, Sofia, December 1944

This leichter Panzer is configured as a Befehlspanzer, so it has a circular plate over the superstructure front plate that formerly mounted a machine gun. It is painted in Dunkelgelb RAL 7028 with the Tac number, 65, in white on the turret sides; these Panzers were numbered from 59 to 68. The national insignia, a St. Andrew's Cross, is painted in black with a white border on the superstructure front plate and also on the turret sides, aft of the Tac number. The legend "9 POTA" is painted on the lower bow plate, probably in yellow.



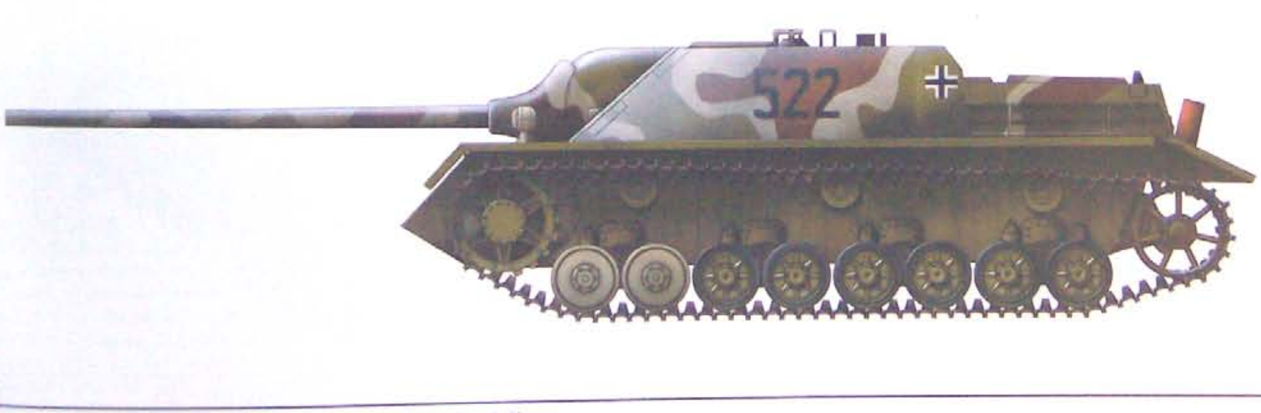
StuG.III Ausf.C/D, 2./StuG.Abt.192, Ostfront, 1941

This battalion, like many early Sturmgeschütz units, adorned its assault guns with a distinctive insignia, in this case a skull and cross-bones on a black square. This was seen on the starboard front superstructure plate as well as on the superstructure side plates. Its color (for this vehicle's battery, yellow) denoted the particular battery within the battalion. A vehicle Tac number, in this case, 34 in white, was seen next to the skull on the front plate as well as on the after portion of the superstructure sides. A black/white Balkenkreuz national insignia was painted on the forward section of the superstructure side plates. This assault gun was finished in overall Dunkelgrau RAL 7021.



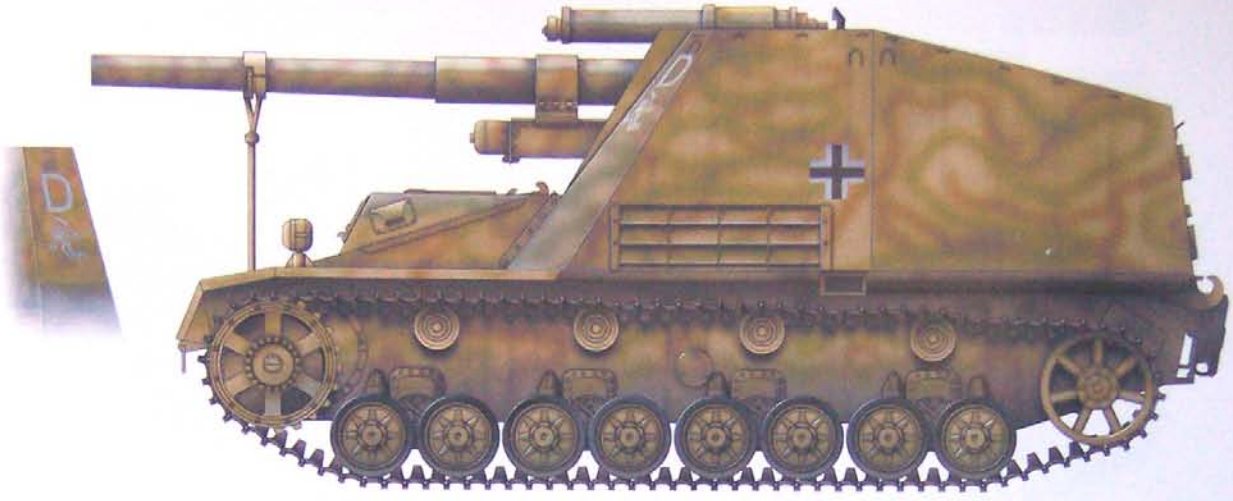
Maybach T-III (StuG.III Ausf.G), Bulgarian 1st Assault Gun Battalion, Yugoslavia, October 1944

This assault gun carries a registration plate in white with a black outline on the starboard front superstructure plate, with the number, B60537, in black. A second one would be seen on the rear superstructure plate; some of these AFVs had only white characters stenciled directly onto the body color. The national marking of the Tsarist regime, a St. Andrew's Cross, in black, was carried on the upper portion of the middle hull Schürzen plate as well as on the rear superstructure plate towards the port side. The vehicle is painted in overall Dunkelgelb RAL 7028.



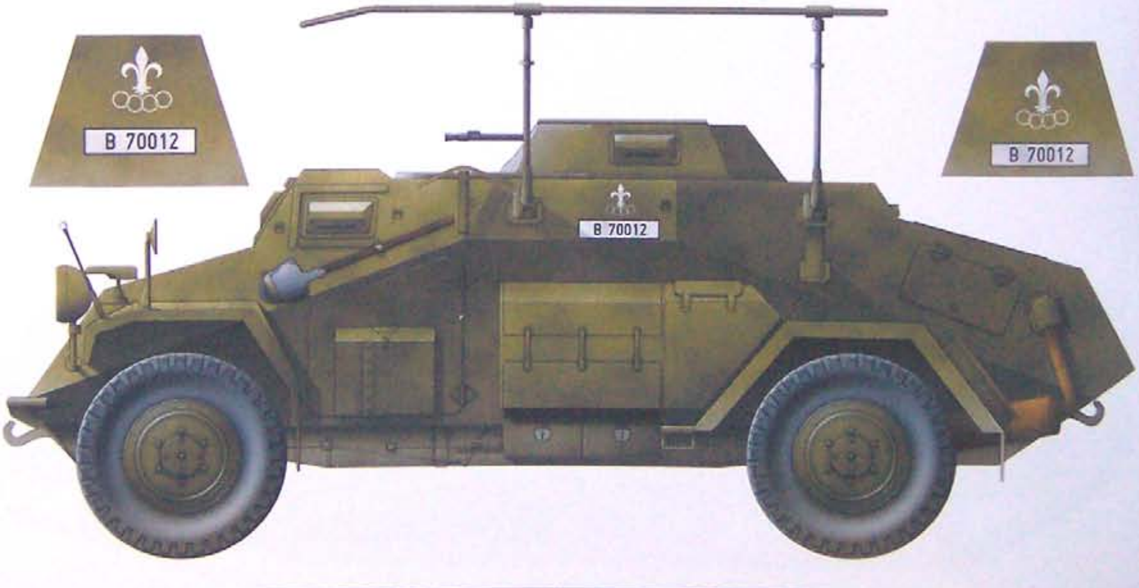
Panzer IV/70 (A), unknown unit, place and time

This tank destroyer is finished in the late-war base color of Olivgrün RAL 6003 with factory-applied hard-edged stripes and blotches of the secondary colors, Dunkelgelb RAL 7028 and Rotbraun RAL 8017. The pair of forward-most rubber-saving road-wheels is finished in Dunkelgelb RAL 7028. The Tac number, 522, in black, is for a 5. Kompanie vehicle. This indicates that this Jagdpanzer is probably assigned to a Panzerregiment's II. Abteilung, since the standard organization of a Panzerjägerabteilung consisted of only three companies. A black/white Balkenkreuz national insignia is seen on the upper rear superstructure plates, towards the edge.



Geschützwagen III/IV für s.FH18/1 (Sf.) "Hummel" late production, Panzerartillierieregiment 119, 11. Panzerdivision, Western Front, 1945

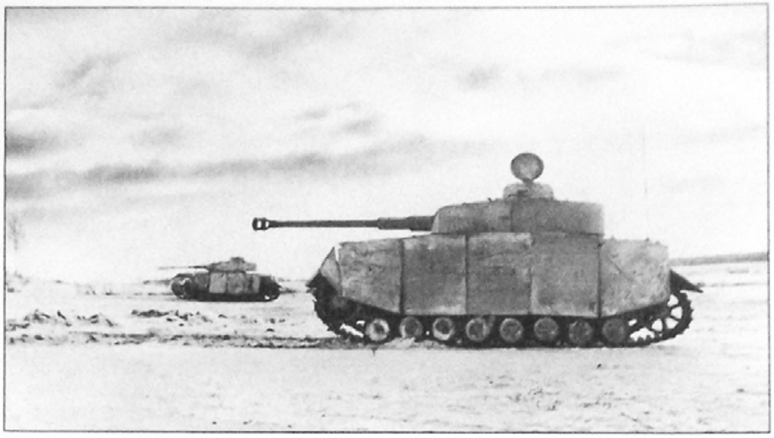
This late-production self-propelled howitzer is finished in Dunkelgelb RAL 7028 with fine squiggly lines sprayed on using the secondary colors of Olivgrün RAL 6003 and Rotbraun RAL 8017. Note that the spare tracks on the lower bow plate were also over-sprayed as indicated in the photos this artwork is based on. The "Ghost Division's" un-official insignia is stenciled in white paint on both sides of the superstructure auxiliary plates. On the port side only, the gun's place within the battery is denoted by a large white "D". The standard black/white Balkenkreuz national insignia is applied high up on the superstructure side plates.

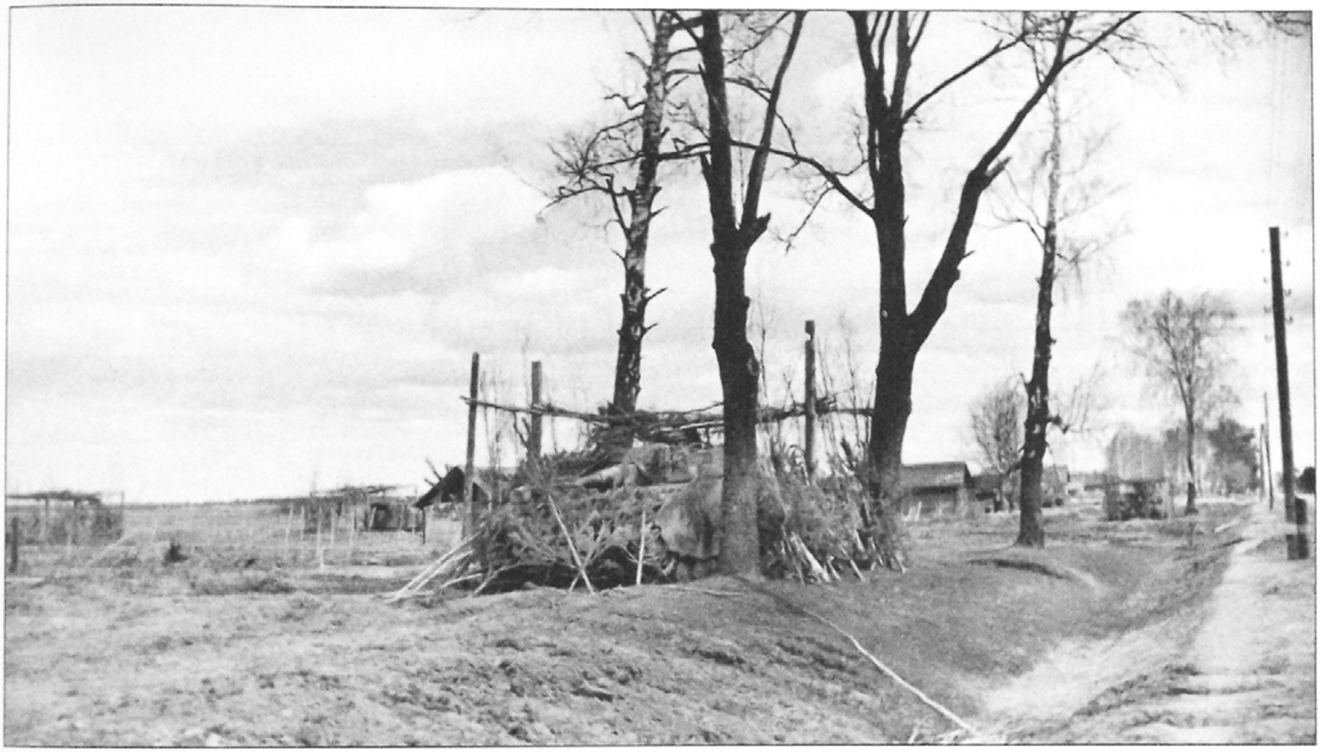


M-223 light armored reconnaissance car (leichter Panzerspähwagen (Fu) Sd.Kfz.223 Ausf.B), Bulgarian Armored Reconnaissance Company, Sofia, Bulgaria, December 1944

This light armored radio car is finished in overall olive green and carries a white registration plate in four positions: the front and rear superstructure plates and on each of the upper side plates between the support legs fro the "Rahmenantenne" (frame antenna). The number B70012, is stenciled in black paint on the plates. The unit insignia, a white "Fleur-de-Lyse" and four interlocked rings is also seen on all four positions, above the registration plate. Its significance is currently unknown, but is possibly a result of Bulgaria's cultural and economic relations with France dating back to the 19th-Century.

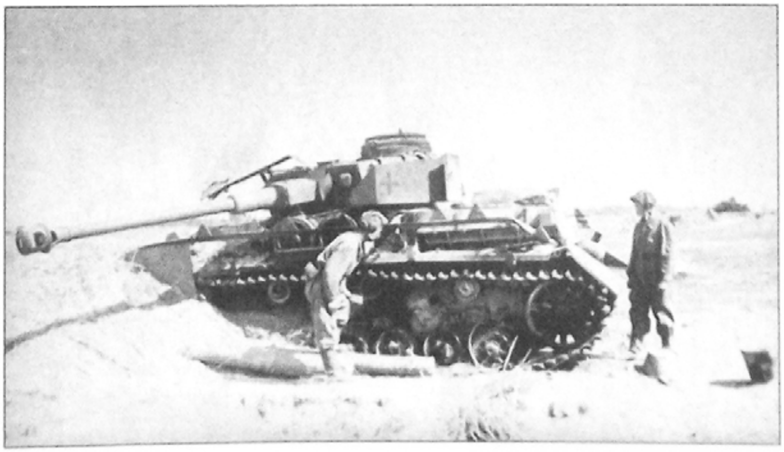
This rather scruffy Pz.Kpfw.IV Ausf.H, and a companion, awaits the order to advance while they sit exposed in the field. The near Panzer has features of the late Ausf.G: single-piece hatch lid on the commander's cupola, rod antenna on flexible rubber base located at the rear corner of the port-side superstructure, and hull Schürzen on the earlier style of hanging frame. Again, the feature that would make this an Ausf.H, the later drive sprocket and its associated final drive housing are also seen.

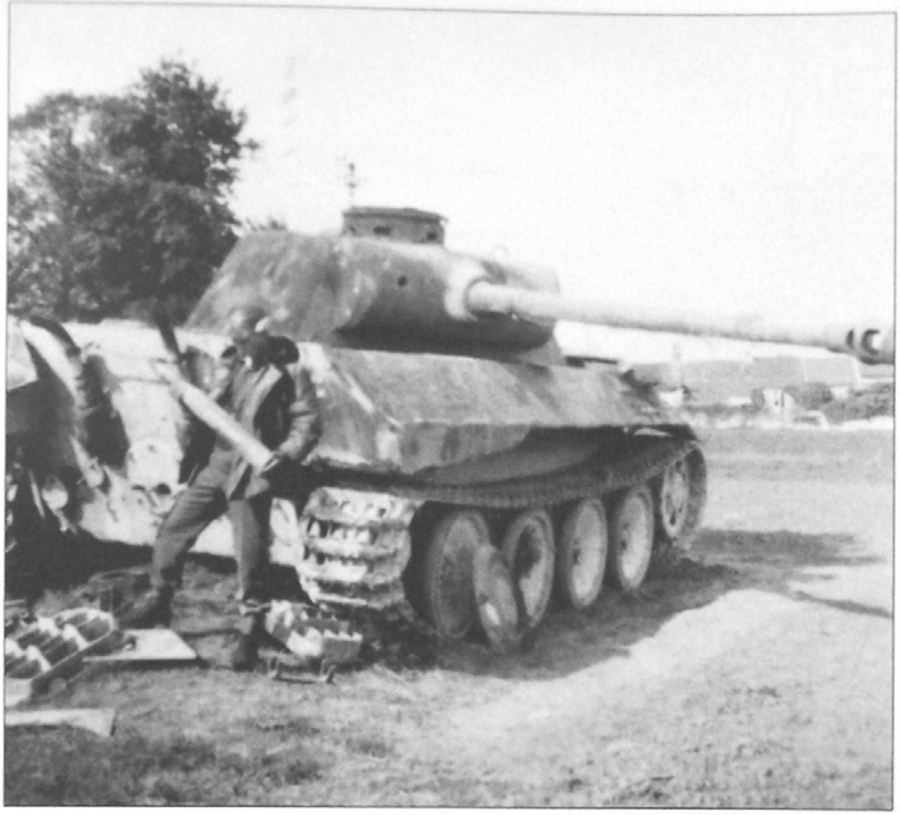




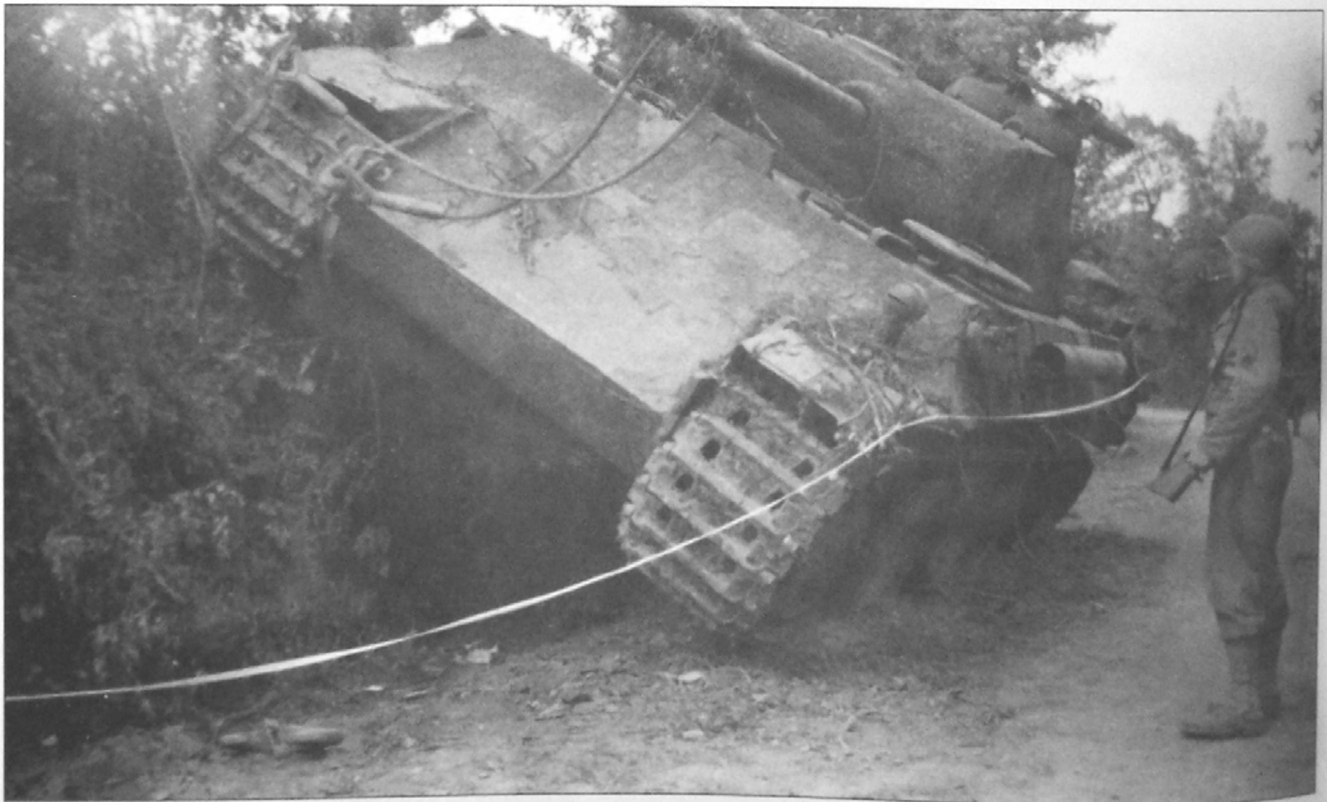
The crew of what appears to be a Pz.Kpfw.IV Ausf.H have taken great pains to disguise their Panzer among some trees as they sit in ambush along the side of a road. While there is obviously "something there", an enemy might be confused into believing it is a structure and not a deadly adversary; deception is a part of camouflage. This Panzer displays the drive sprocket seen on the Ausf.H and also wears a full set of Schürzen.

A pair of Soviet tankers examine a thoroughly destroyed Pz.Kpfw.IV Ausf.J. Note the penetration on the lower hull side between the two return rollers and the burnt condition of several of the road-wheels. This Panzer has later features such as the cast idler wheel, all-steel return rollers and final type of hub cap on the road-wheels. Note the triangular-shaped hooks on the hanging rail for the hull-mounted Schürzen and the base at the corner of the port-side superstructure. The latter mounted a flexible rubber insulator (probably destroyed by the same fire that burned away the rubber on the road-wheels) for the rod antenna. Although many Ausf.Js were built with the later twin Flammvernichter (flame-dampening) exhaust pipes, this one mounts the large cylindrical type, first seen on the Ausf.F.

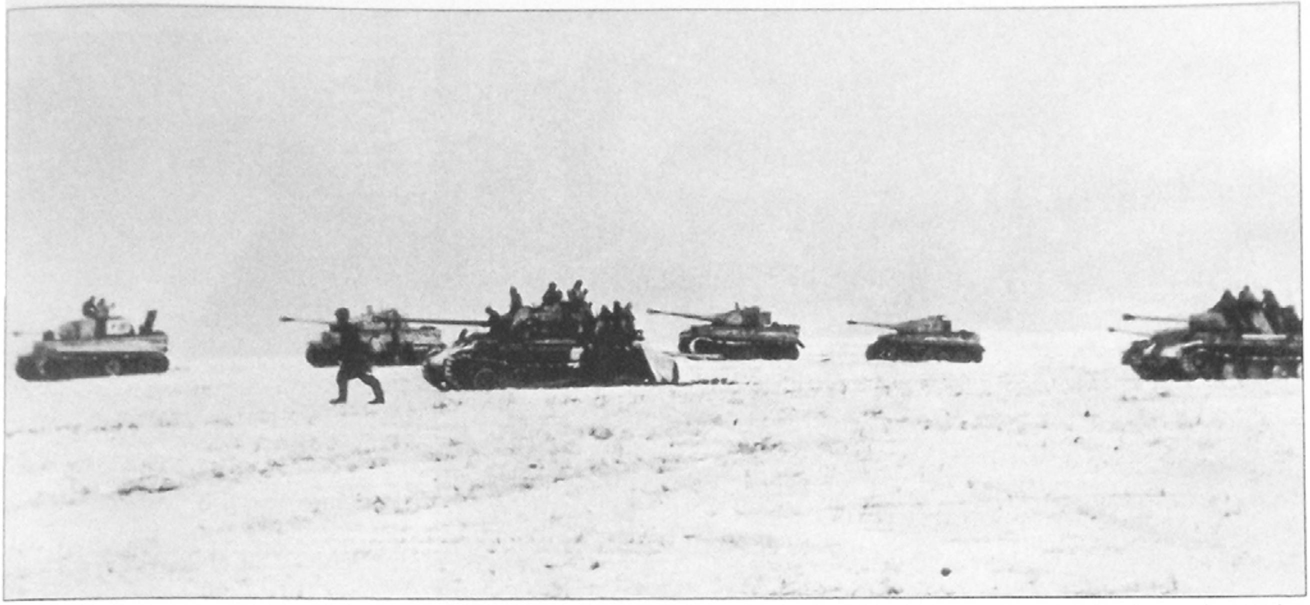




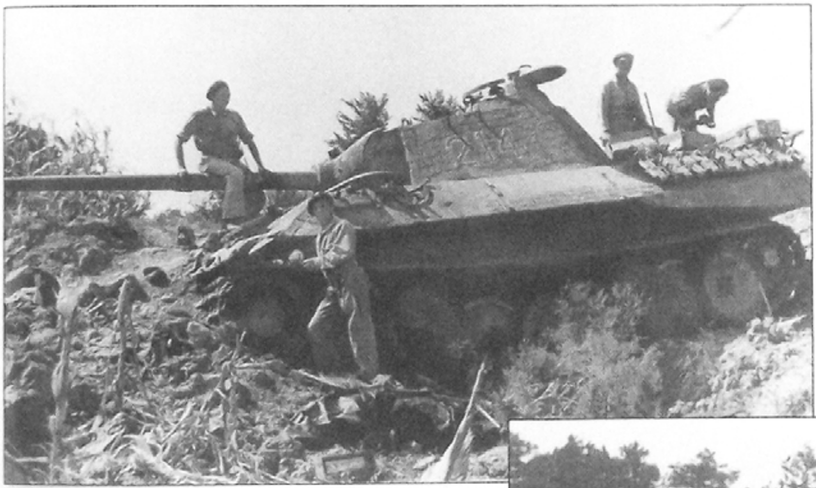
A member of the US Army Air Forces holds a complete round belonging to the 7.5cm KwK42 L/70 main gun of this Pz.Kpfw.V Ausf.D. Note the debris on the ground at his feet, which includes engine components and air intake grills; a cast fan grill rests against the last road-wheel. This Panther is identified as an Ausf.D by the drum-shaped commander's cupola, which mounts a Führungsring für MG (ring for machine gun) around its rim. The engine exhausts are of the earliest type with cast cowls and single pipes.



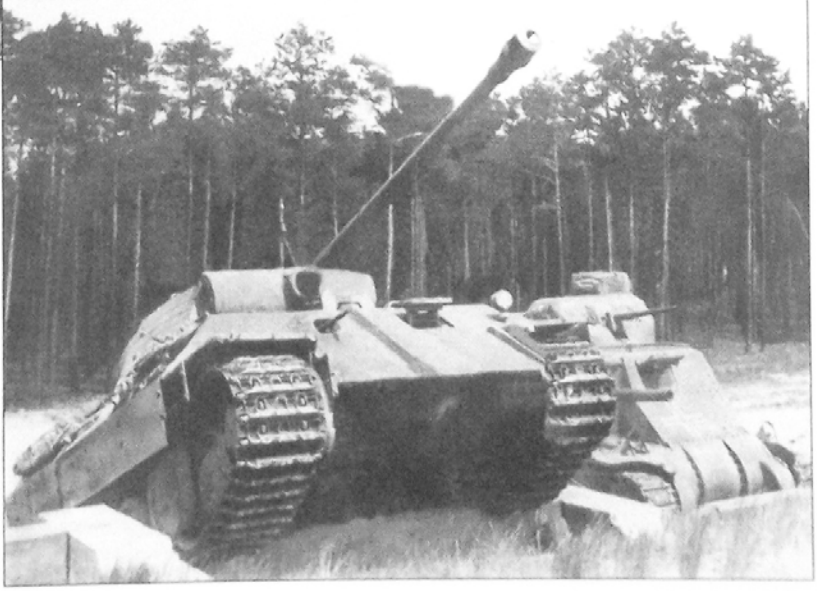
A US Army Staff Sergeant (three chevrons and one "rocker") examines the infantryman's nightmare: a Pz.Kpfw.V Ausf.A. This Panther has somehow become trapped along a hedgerow and has been cordoned-off so as to prevent any injuries to the curious from booby-traps. It is identified as an early Ausf.A by the combination of cast Prismenspiegelkuppel (commander's cupola with periscopes) on its turret and "letter-box" opening on the starboard side of the glacis plate for the radio operator's MG34. Note that the gun mantle has a rain guard welded over the gunner's sight aperture and that Zimmerit has been applied to all vertical surfaces of the turret (including the mantle) and the hull front, superstructure sides (and probably the rear as well). The Ausf.A also mounted a single Bosch head-lamp on the glacis plate, whereas the previous version, the Ausf.D mounted two of them, one on each side.



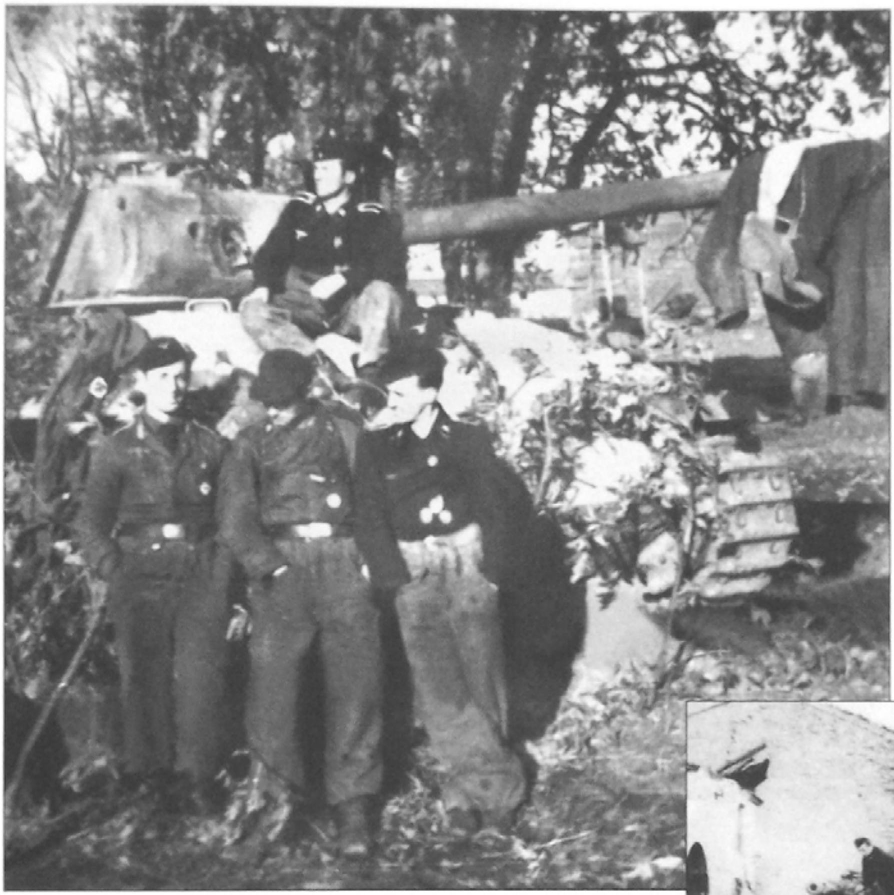
A pair of Panthers, along with a Zug (platoon) of Tiger Is, await the order to move forward in an attack. These Panzer, although obviously operating together are not from the same unit. Panthers were typically seen in the I. Abteilung of a Panzerdivision's Panzerregiment, while Tigers were formed into independent schwere Panzerabteilungen (heavy tank battalions). These s.Pz.Abt. were usually retained at Korps (corps) level and used to bolster an offensive or strengthen the defenses of a threatened sector. Although difficult to determine in this photograph, the Tigers appear to be the so-called "mid-production" versions, while the Panthers appear to be Ausf.As.



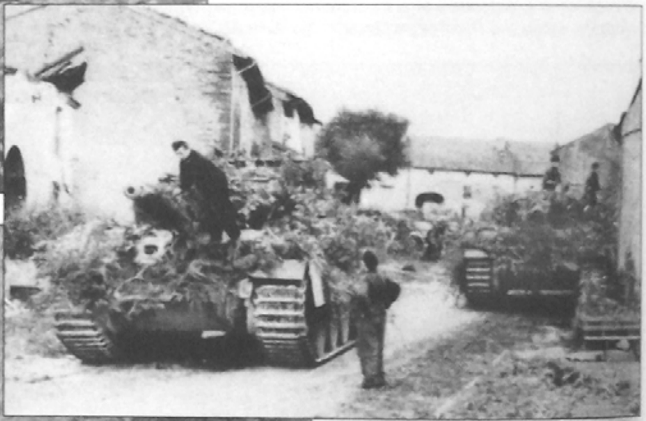
Polish troops from the Pułk 4. Pancerny "Skorpion" (4th "Scorpion" Armored Regiment) examine a Pz.Kpfw.V Ausf.A from 2. Kompanie, I. Abteilung, Panzerregiment 4, in Italy, during the summer of 1944. This early production Panther Ausf.A is covered in Zimmerit anti-magnetic mine paste, and has some stowage boxes fitted to its engine deck. It has certainly seen better days since it appears to be half-buried and abandoned. Panzerregiment 4 was among several units rushed to the Anzio sector in response to the Allied landings on January 22, 1944.



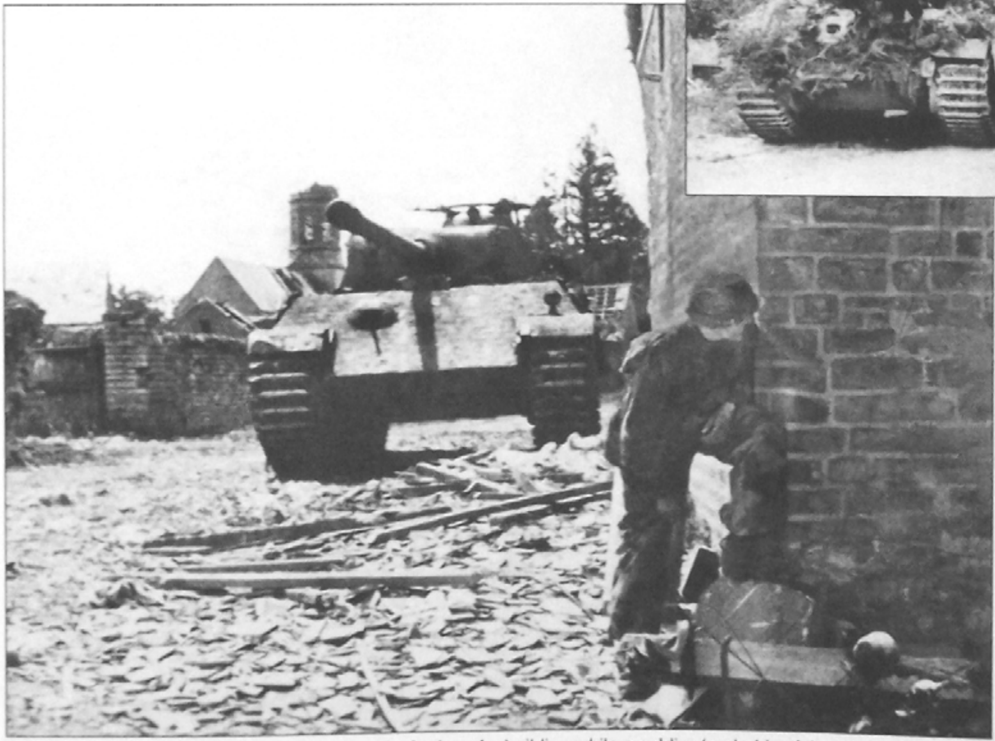
This unusual photograph depicts a Pz.Kpfw.V Ausf.A being tested against an American-manufactured M3 medium tank. The Panther Ausf.A is a later production version as evidenced by the Kugelblende (ball mount) for the radio operator's MG34. It is fully equipped with hull Schürzen, tools, spare tracks and an un-covered Bosch black-out driving head-lamp. This un-marked Panzer is painted in an overall base color of Dunkelgelb RAL 7028 and is covered in Zimmerit anti-magnetic mine paste. Note also how the front edges of both fenders are notched to accept extensions.



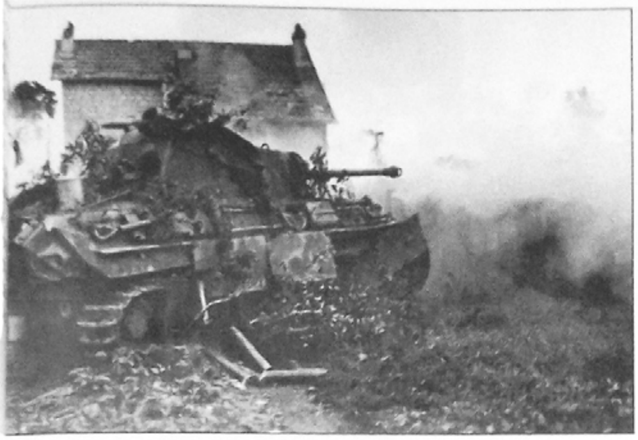
Several crew-members from this late-production Pz.Kpfw.V Ausf.A pose for posterity. Their Panther is identified as a late Ausf.A by the Kugelblende (ball mount) for the radio operator's MG34, which the man on the glacis plate is using to steady himself in place. This Panther also has an officially-sanctioned modification carried out on its turret: hooks have been welded in place in order to carry spare track links. Note the periscope head and armored guard on the hull roof, to the left of the man sitting on the glacis plate; it remained in place from the previous early Ausf.A, while the second periscope (which would have been seen behind the seated man) was deleted when the new MG mount was installed.



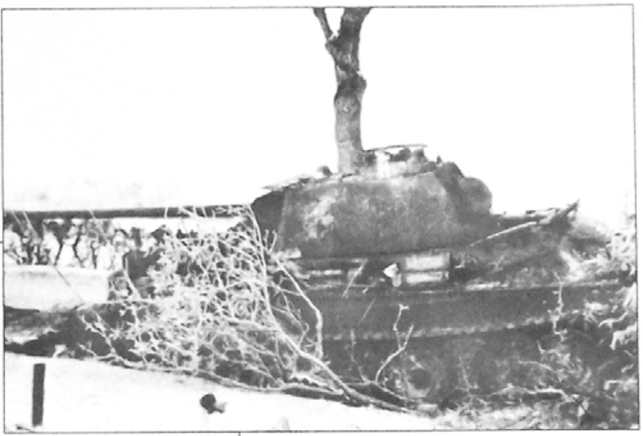
A pair of very well-camouflaged Pz.Kpfw.V Ausf.Gs move through a village somewhere in France. Although most of their features are hidden beneath the foliage, the near Panther shows the Bosch black-out driving head-lamp on the port-side fender, an identifying feature of the Ausf.G. Furthermore, the rotating periscope above the driver's station is also visible. On the western front, the omnipresence of Allied tactical airpower severely hindered movement of mechanized forces, making camouflage discipline a priority.

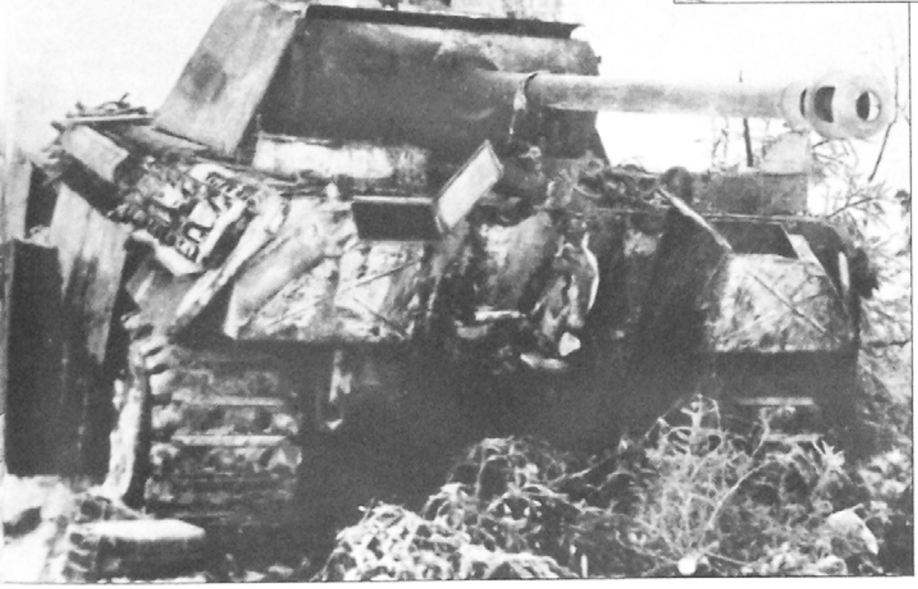


An early-production Panther Ausf.G shelters in the lee of a building while a soldier (probably of the Waffen-SS, by the look of him) peers around the corner to see if the "coast is clear". Compared to the Pz.Kpfw.V Ausf.A, the Ausf.G featured a re-designed superstructure armor layout, with some of those features visible here. Note the absence of the hinged driver's view port and the position of the Bosch black-out driving head-lamp; the latter was moved from the glacis plate to the port-side fender. This Panzer is also covered in Zimmerit anti-magnetic mine paste.



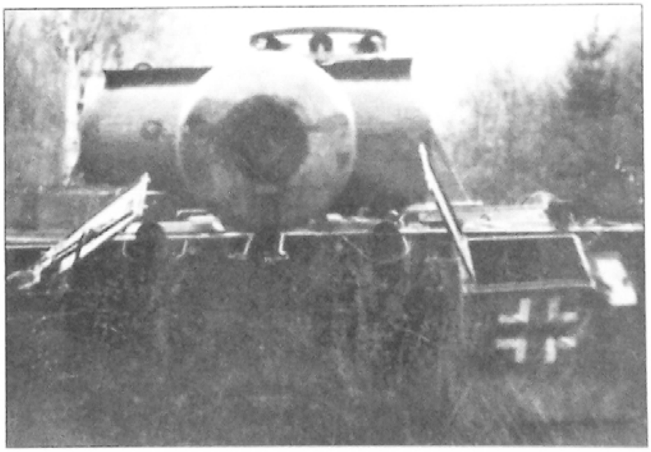
In the thick of battle, this Pz.Kpfw.V Ausf.G sends rounds down-range against the enemy. Note the smoke and dust raised from the muzzle blast of the powerful 7.5cm KwK43 L/70 as well as the spent shell casings lying on the ground next to the suspension system; the turret rear escape hatch is open to facilitate their ejection. From this angle, the means of identifying this Panther as an Ausf.G is the configuration of the superstructure side armor plate (one continuous angle from front-to-rear), the mounting rail style for the Schürzen, and the shape of the plates themselves. The Ausf.G also featured an enlarged wood block seen on the superstructure side, just below the gun mantle, which acted as a base for the vehicle's 20-ton jack.



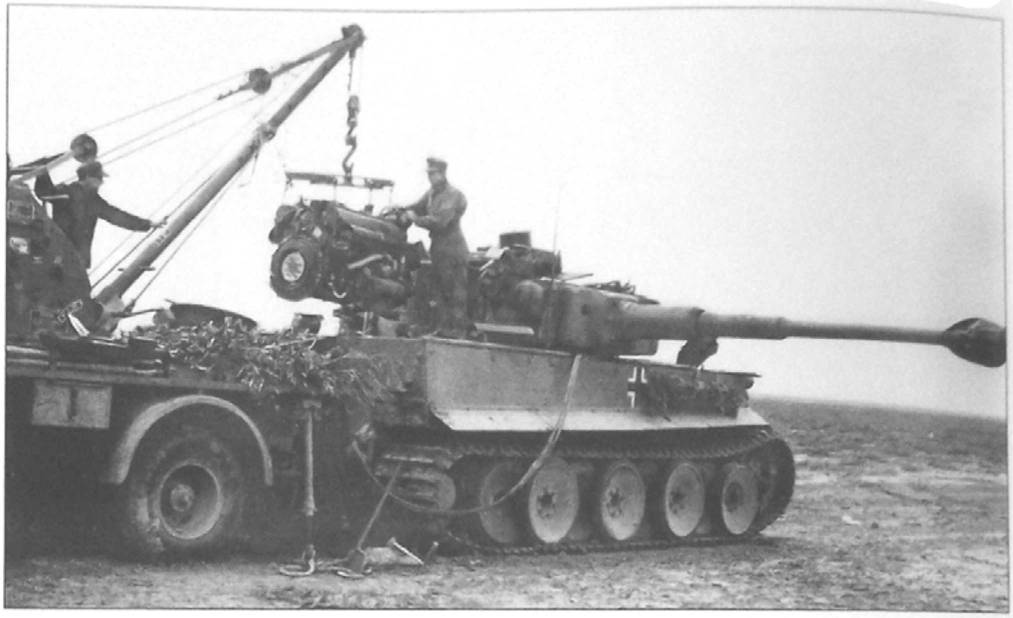


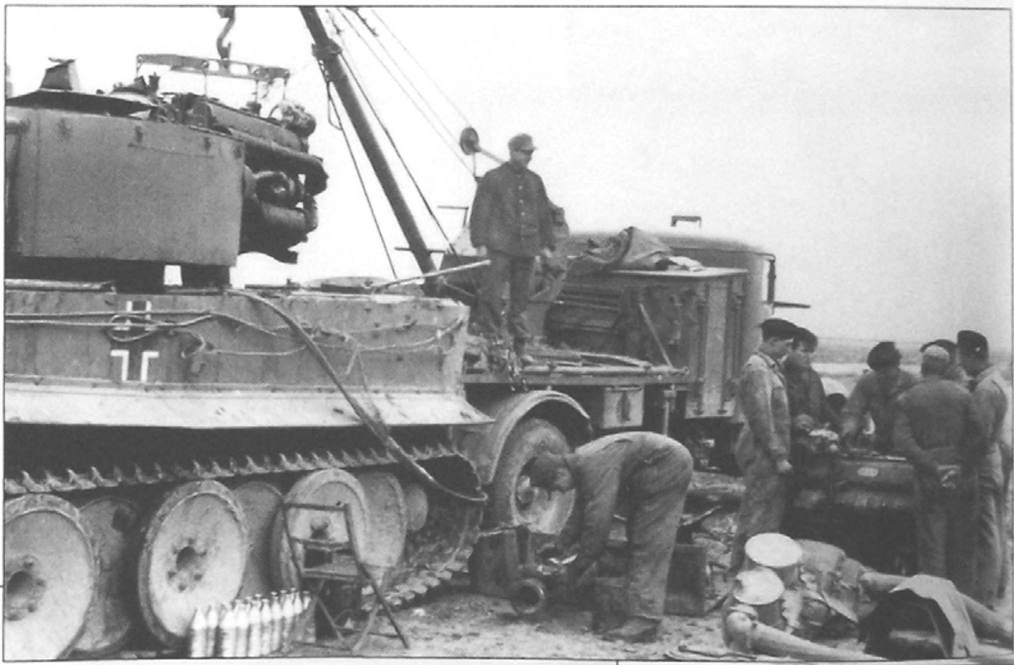
These two photographs depict a destroyed Pz.Kpfw.V Ausf.G outfitted as a Panzerbefehlswagen (command tank). Note the flexible rubber base for the rod antenna on the turret roof, aft of the cupola, in the first photograph. The debris on the engine deck makes it difficult to determine if the armored pot and porcelain insulator for the Sternantenne (star antenna) is present. It would also appear that the port for the co-axial MG34 on the mantle is opened, indicating that this is possibly a field conversion; it should be "plugged". The engine deck features the raised fan tower for the Kampfraumheizung (crew compartment heater). This system included six pie-shaped metal plates that could be fitted over the fan tower opening, as well as slats on the two rectangular grills (only on the starboard side) of the engine deck. These were used to regulate air flow into the system. The Panzer has a very scruffy white-wash applied to its surfaces, much of which has been removed by fire damage.

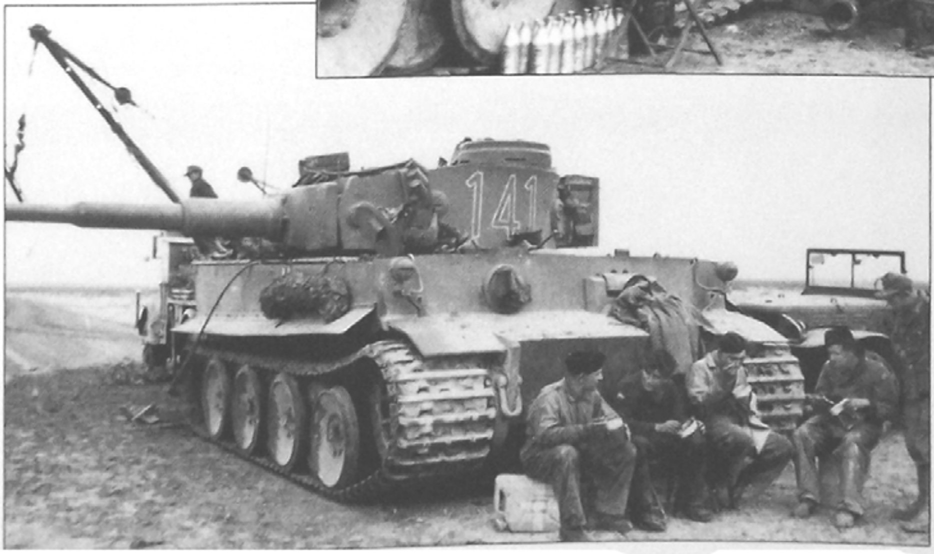
This Panther is identified as a later Ausf.G by the location of the Kampfraumheizung (crew compartment heater) fan tower on the engine deck, to the left in the photo. The photographer has placed the gun tube in the center of the frame, which affords a view of the subtle off-set of the gun mantle related to the turret front plate. There is a sheet-metal rain guard over the gun mantle, and a close examination will also reveal the two studs (one at each end of the mantle), which were used to lift the entire assembly out of the front of the turret. Finally, note that on the right in the photo, just above the corner of the opened hull-rear stowage locker is a small rectangular shape. This was a "U"-shaped storage bracket for one end of the tow cable; the cable end would be placed there and secured with an "L"-shaped pin, which was retained by a chain.

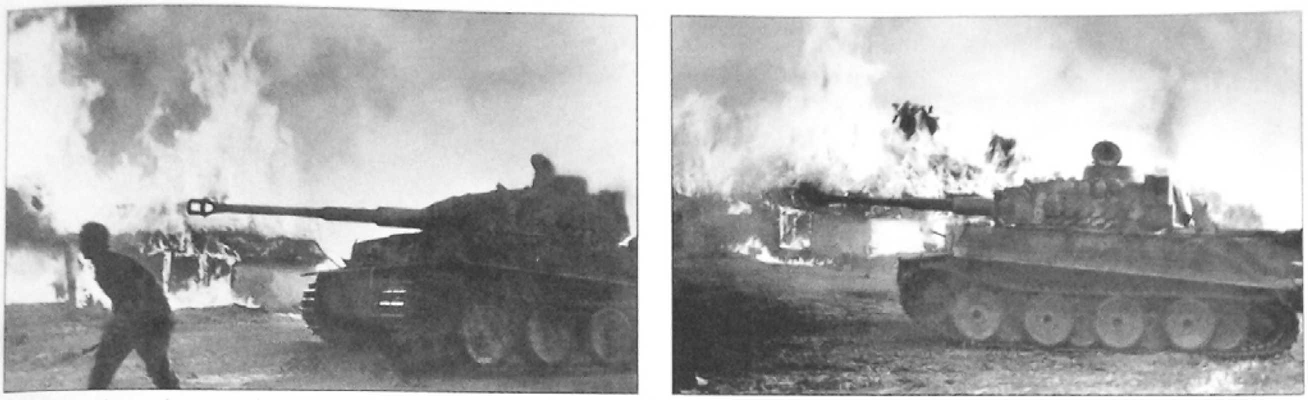


This interesting group of photographs depicts an engine change being carried out on an initial-production Tiger I of H.s.Pz.Abt.501 in Tunisia, some time after the initial encounters with the Americans in 1943. In the first photo a Lastkraftwagen mit Drehkran (truck with rotating crane) mounting the 6-ton Bilstein Kran (crane) on a Büssing NAG 4500-series 4.5-ton chassis is either removing or installing the Tiger I's Maybach HL210 P45 power plant. Note the outrigger at the corner of the truck's load-bed used to steady the entire vehicle during the process. In the second photo, we see maintenance personnel huddled around the second power plant, while a single man works on a removed section of the engine deck. Note parts of the Feifel air filter system and the exhaust pipe shields in the foreground and the bottles of what is probably engine lubricant on the ground next to the Tiger's road-wheels. In the final photo, with the job at hand apparently completed, the Tiger's crew takes a well-deserved meal break. Note several of the features peculiar to the schwere Panzer of this unit. They are: non-hinging front mud guards made from tread-plate, unique re-location of the Bosch head-lamps to the front superstructure plate (note the mounts and the power conduits), and the non-standard turret bustle stowage box. Note the captured US Army Dodge WC-series truck parked next to the Tiger. This Tiger I is the subject of a color plate in this volume.

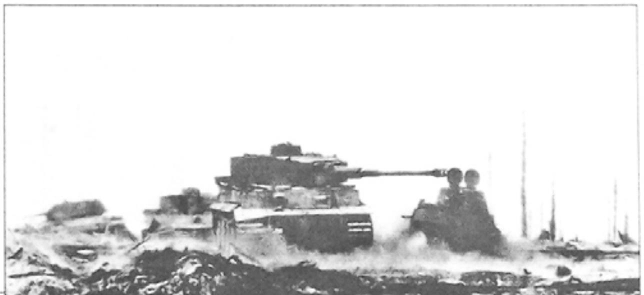




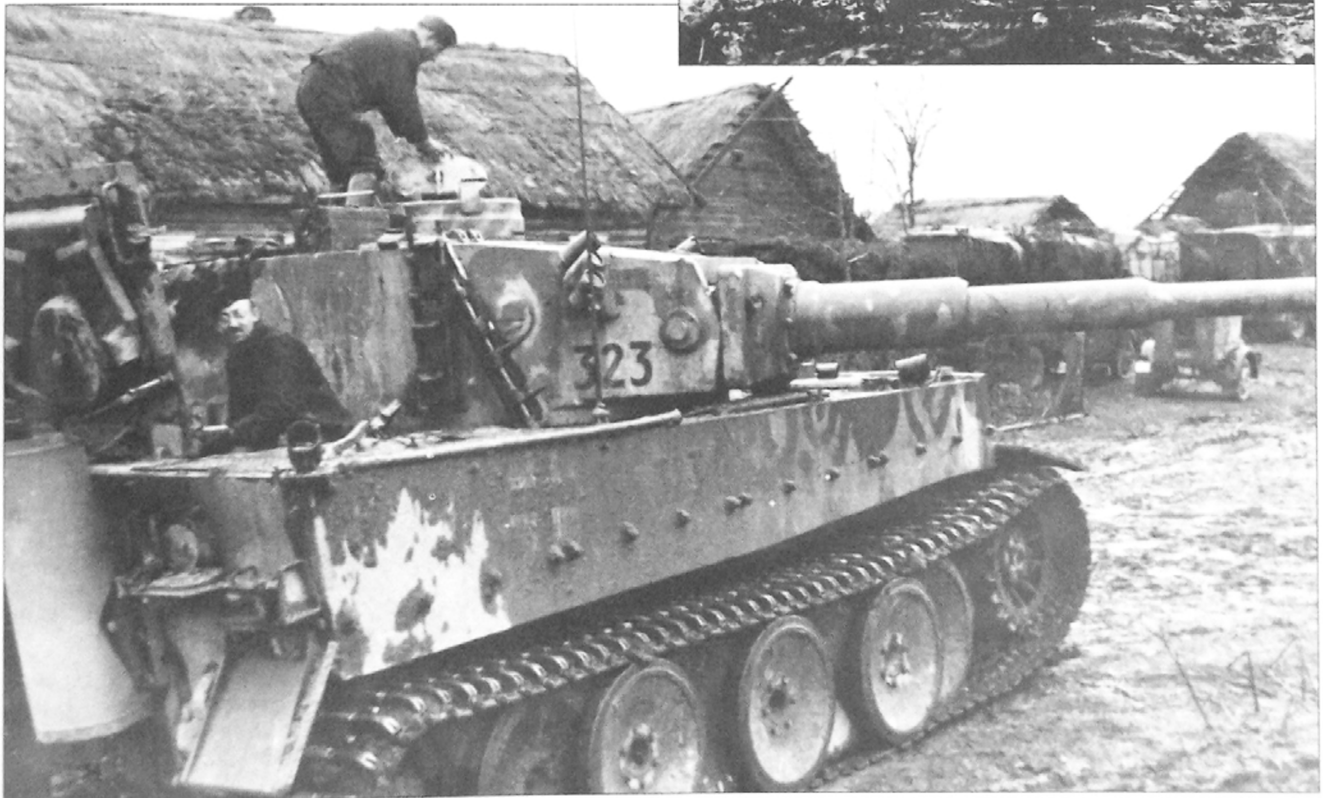




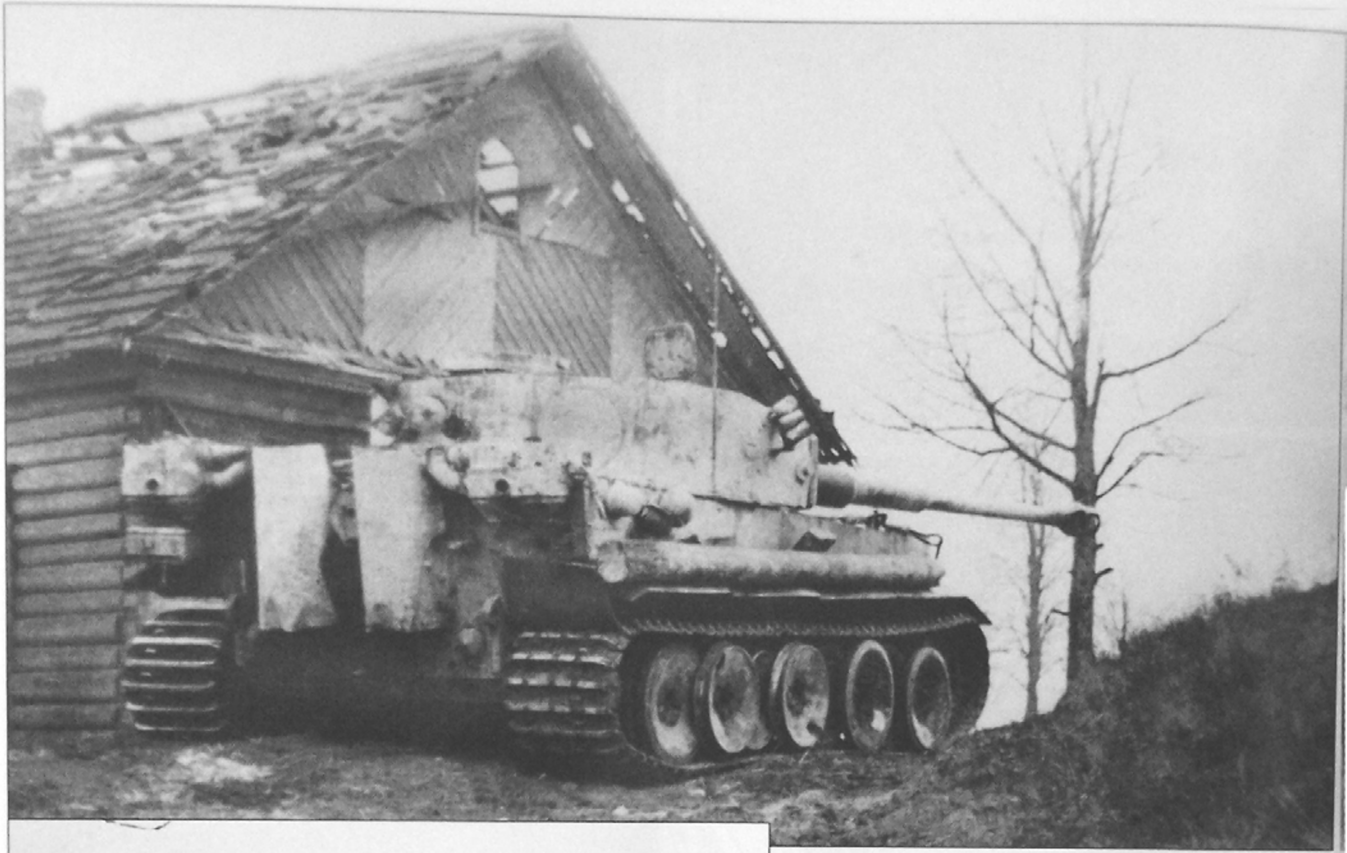
These two photos show an action sequence of a relatively standard early-production Tiger I. In the first photo, what appears to be the "Charging Bull" insignia of H.s.Pz.Abt.505 (Army Heavy Tank Battalion 505) is painted on the superstructure front plate in white. The second photo is a bit more detailed and shows several interesting features. On the turret there are spare track links and five steel helmets stored on the sides, behind the Tac number (234) located beneath the Nebelwurfgerät (smoke candle dischargers). Note also the Feifel air filter system on the hull rear and the S-Minenwerfer (S-Mine discharger) on the edge of the hull roof, just below the gun mantle.

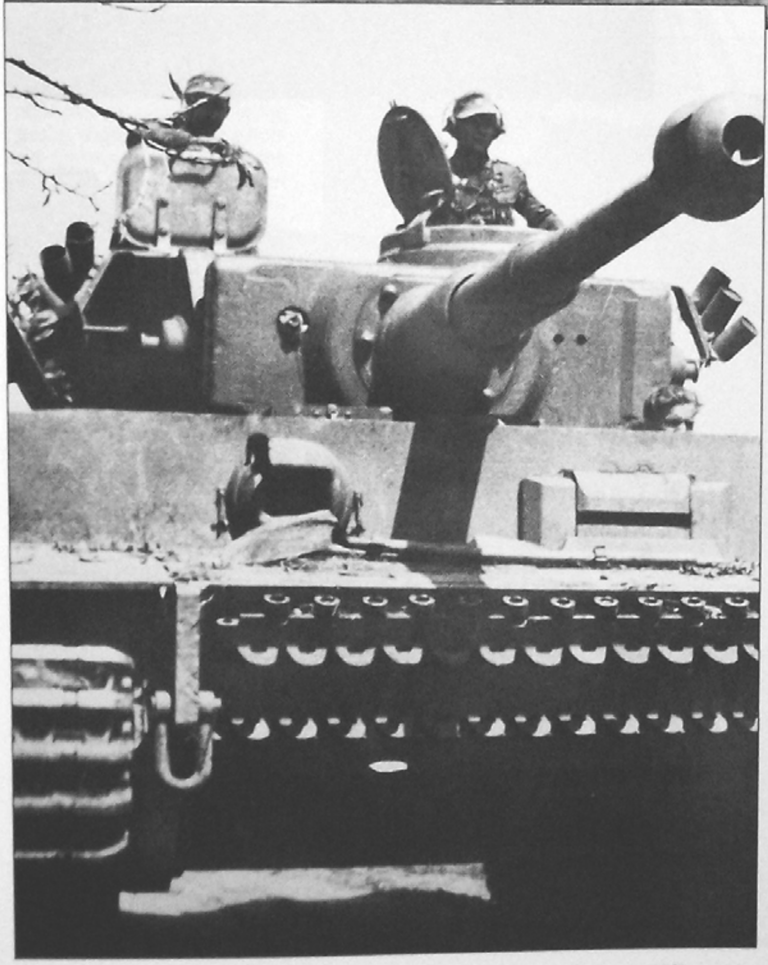


A pair of early-production Tiger Is proceed through thoroughly desolated territory past wrecked Soviet tanks, including a KV-1 at left and a T-26 at right. The quality of the original photograph makes it difficult to determine what special features (if any) these vehicles may possess. Nevertheless, both Tiger Is have the earlier drum-shaped commander's cupola, full-width folding mud guards and full fenders. The near Tiger I has the often-seen large shovel stored on its glacis plate and features Nebelwurfgerät (smoke candle dischargers) on the turret.



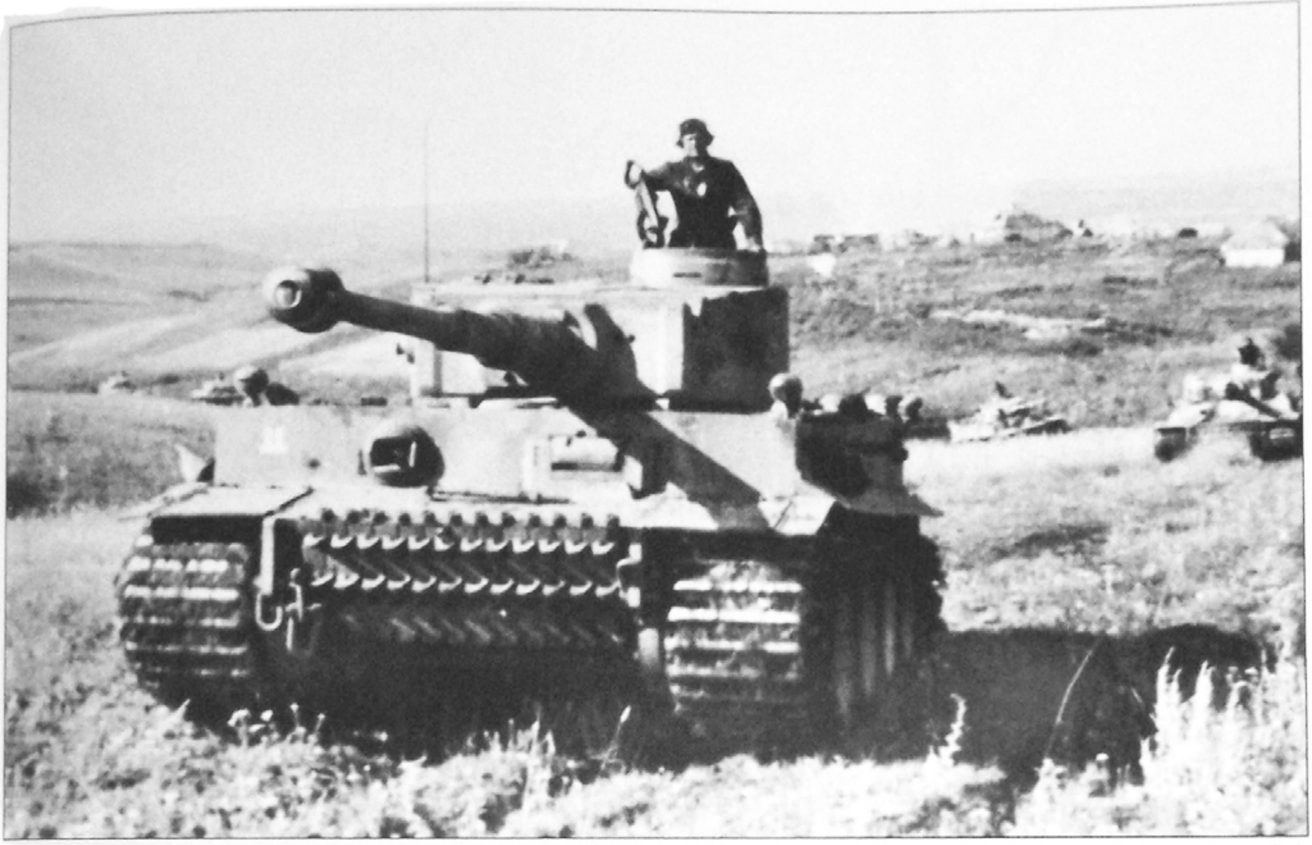
This early-production Pz.Kpfw.VI Tiger I, of Heer (Army) s.Pz.Abt. 502, is seen undergoing maintenance on the Ostfront in the Autumn of 1943. A mechanic seated in the engine compartment looks past the raised hatch lid at the photographer; the lid itself features the manifold that attached to the Feifel air filter system, which is not seen here. This 3. Kompanie schwerer Panzer (heavy tank) features Nebelwurfgerät (smoke candle dischargers) on the turret and S-Minenwerfer (S-Mine dischargers) on the edge of the hull roof at the front and rear corners; the opposite side of the hull would have three of them, with the third being located roughly opposite the rod antenna. Note the tube at the edge of the hull roof just aft of the flexible rubber antenna base; it held spare rod antennae. Finally, the side fenders are removed as is the folding segment of the rear mud flap. This vehicle is the subject of a color plate in this volume.



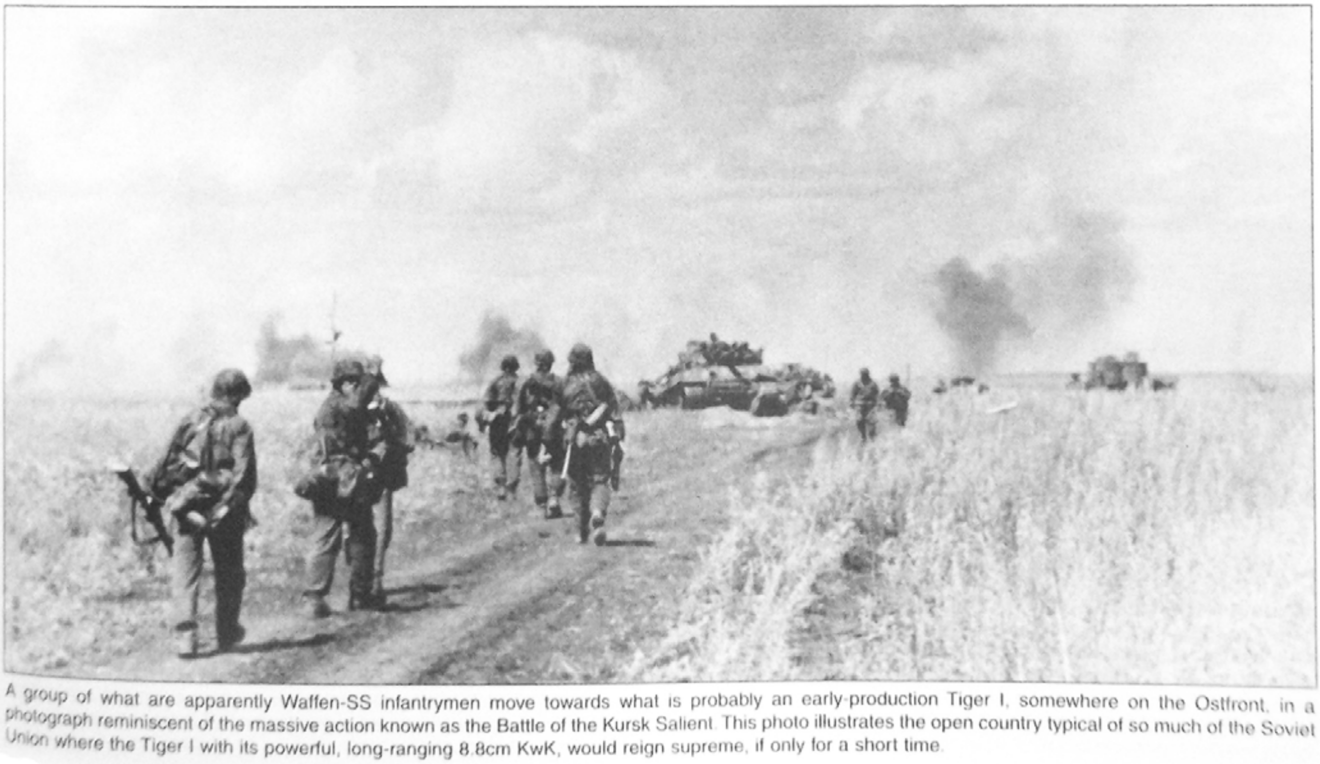


This early-production Tiger Ausf.E uses a local structure to conceal its position from enemy observation. It features Nebelwurfgerät (smoke candle dischargers) on the turret along with the early drum-style commander's cupola. The Feifel air filter system is still retained on this winter-whitewashed example. A large "un-ditching" log (used to help in extracting a bogged-down Panzer) is stowed on the hull superstructure side along with some of the crew's steel helmets. Note also that several road-wheels have lost their rubber rims, a rather common failure on such a heavy vehicle.

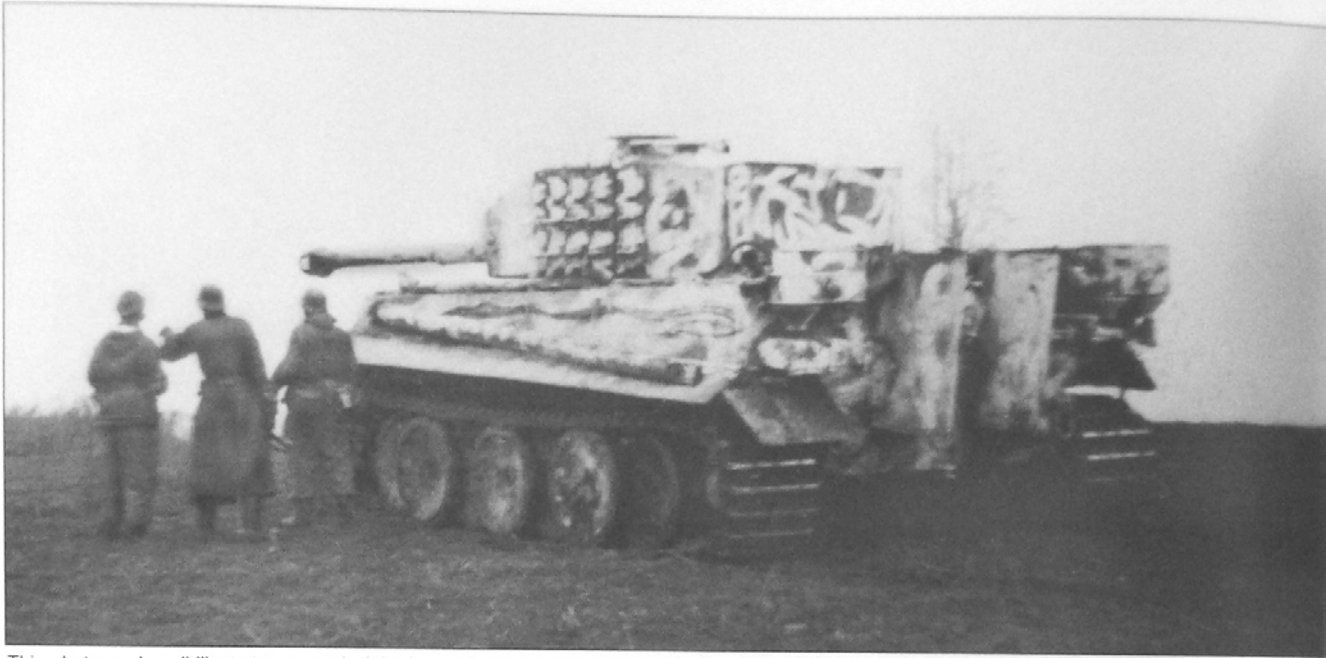
This close-up of an early-production Pz.Kpfw.VI shows some details of the gun mantle to good effect. Note the twin openings for the gunner's T.Z.F.9b binocular sight and the lack of reinforcing armor over them. Also visible are the Nebelwurfgerät (smoke candle dischargers) on the turret; some of the candles have been fired. Just below them on each side of the gun's trunnions, are studs that were used, along with a third one positioned at the turret's rear (between it and the bustle stowage locker), to lift the entire turret assembly. The loader's hatch has its grab handle on the center of the lid's edge (later models had the handle moved off-center to the right), while the lid for the commander's cupola hatch is held stationary by a latch along its edge; these things were very heavy and leaving them loose invited serious injury. The radio operator's MG34 mount has the two small hinged wing-nut/bolt assemblies that were used to secure a deep wading seal, a large shovel (later deleted) is stored on the glacis plate, while a section of spare track links are hung on the bow plate.



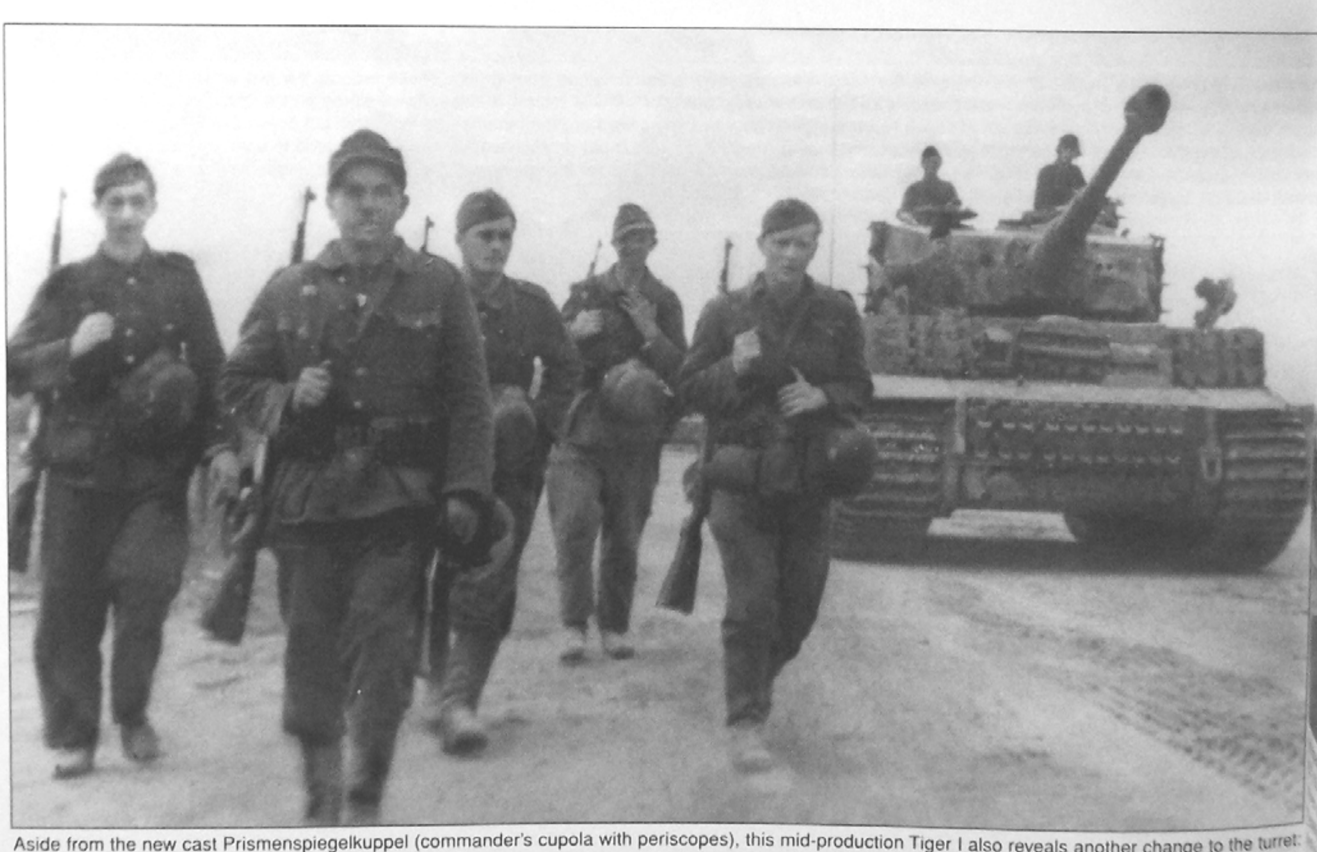
Another early-production Tiger I shows many of the same features seen in the previous photograph. These include the two small hinged wing-nut/bolt assemblies that were used to secure a deep wading seal over the radio operator's MG34 mount, a large shovel stored on the glacis plate, and a section of spare track links on the bow plate. It does not have Nebelwurfgerät (smoke candle dischargers) mounted on the turret, but does have S-Minenwerfer (S-Mine dischargers) on the edge of the hull roof at the front and rear corners; Bosch black-out driving head-lamps are mounted in both standard positions at the front corners of the superstructure roof. The gun mantle also features twin openings for the gunner's T.Z.F.9b binocular sight, without a strip of reinforcing armor cast into it over the weakened area.



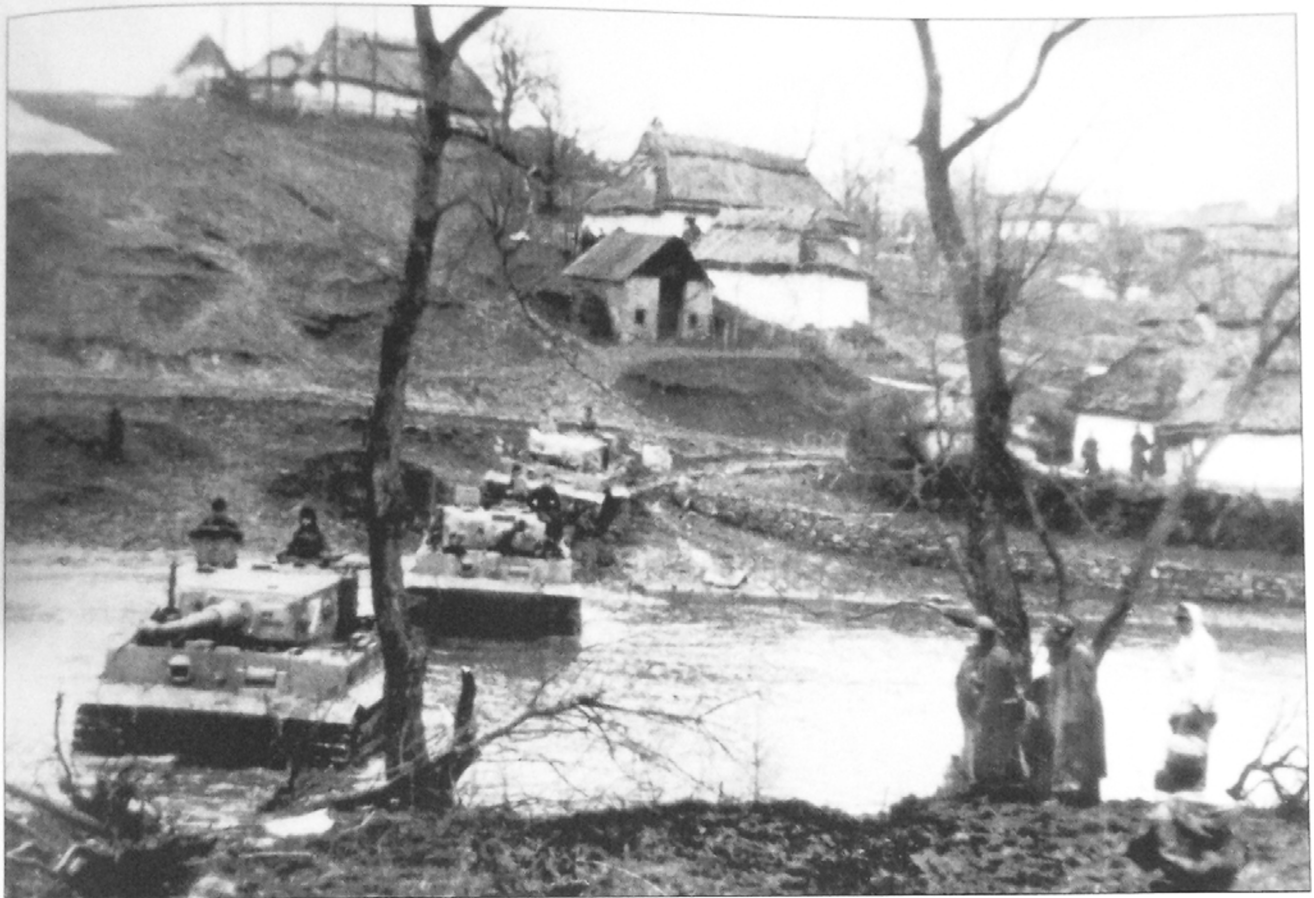
A group of what are apparently Waffen-SS infantrymen move towards what is probably an early-production Tiger I, somewhere on the Ostfront, in a photograph reminiscent of the massive action known as the Battle of the Kursk Salient. This photo illustrates the open country typical of so much of the Soviet Union where the Tiger I with its powerful, long-ranging 8.8cm KwK, would reign supreme, if only for a short time.



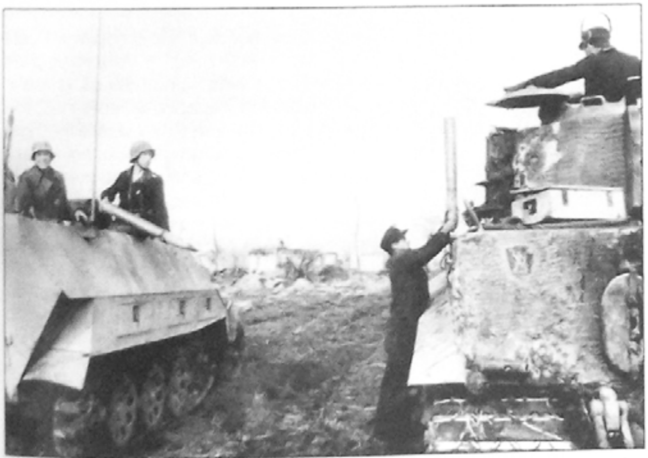
This photograph well-illustrates several of the improvements to the turret of the Tiger I, which made it a "mid-production" type. The previous drum-shaped commander's cupola has been replaced with the cast Prismenspiegelkuppel (commander's cupola with periscopes), and an improved MP-Stopfen (machine-pistol port with armored plug) has been fitted to the near side of the turret, between the spare track links and the bustle stowage locker. The storage of the links themselves were now officially sanctioned, with five on the near side, and two more on the opposite side. It is unusual for a Tiger I with the new turret to still retain the Feifel air filter system, as this white-washed example obviously does. Note the un-ditching log and the long, thin cable used to change tracks stored on the superstructure side plate, as well as the S-Minenwerfer (S-Mine dischargers) on the edge of the hull roof at the front and rear corners.



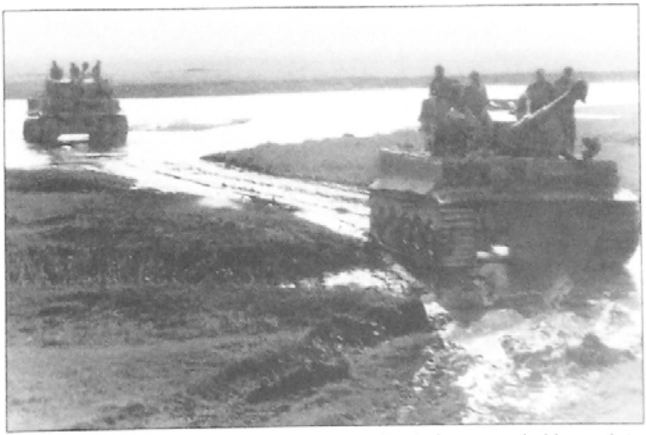
Aside from the new cast Prismenspiegelkuppel (commander's cupola with periscopes), this mid-production Tiger I also reveals another change to the turret: the relocation of the internal exhaust fan to its new position on the center of the roof plate (moved from the rear edge). The gun mantle still features twin openings for the gunner's T.Z.F.9b binocular sight, but now a strip of reinforcing armor is cast into it to cover the area weakened by the two necessary penetrations. Despite its heavy armor, this Tiger I's crew is taking no chances, storing links on the bow, the superstructure front and turret sides. Note also the changed configuration of the hull-side extensions where the "U"-shaped tow clevises are stored; the cut-out area allowed more freedom of movement during recovery operations.



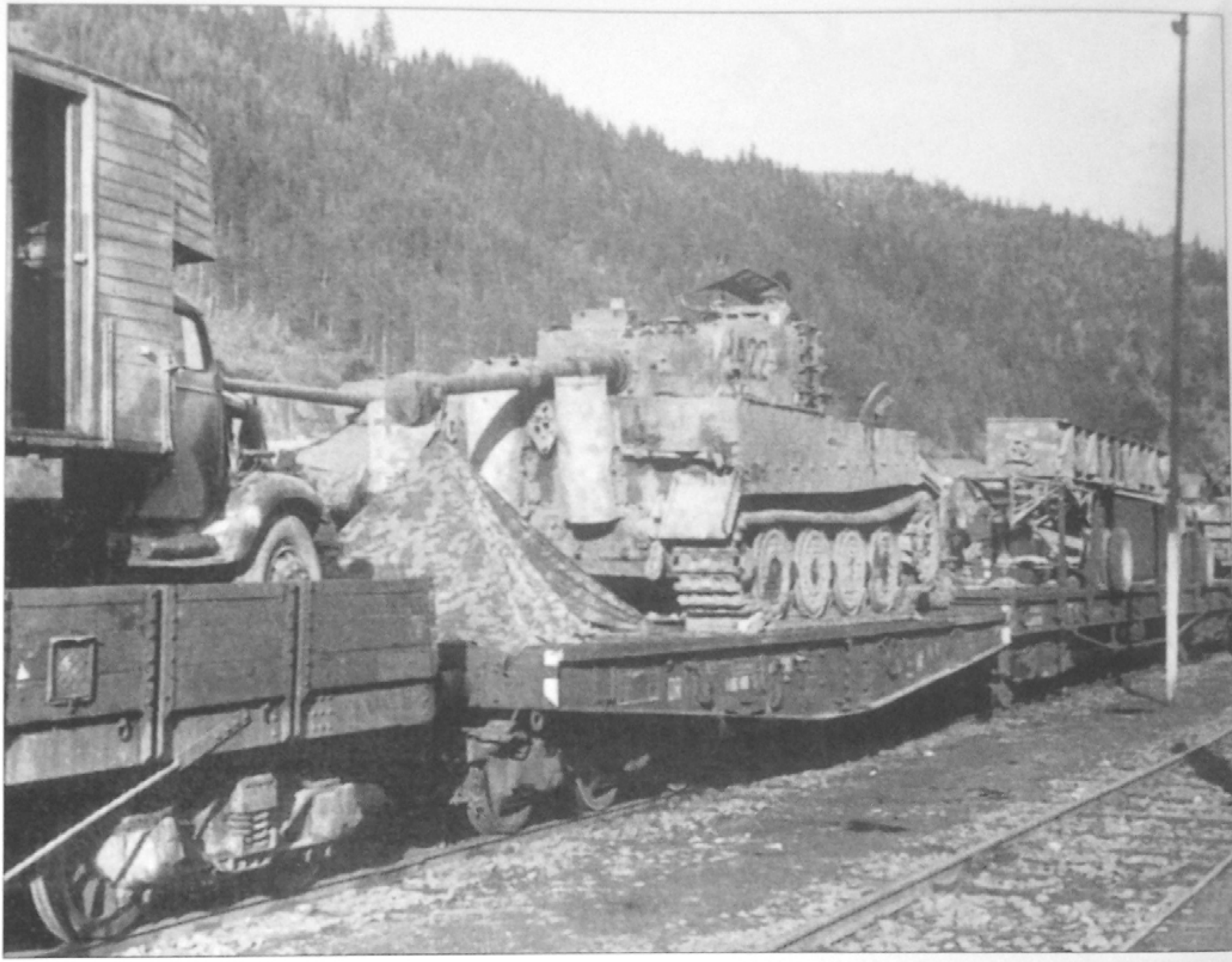
A trio of mid- or late-production Tiger Is ford a shallow spot of a river, somewhere on the Ostfront. From this distance, it's difficult to be certain, but some of them appear to have the mount for a single Bosch head-lamp located in the center of the superstructure front plate. The first Tiger I also has twin openings for the gunner's T.Z.F.9b binocular sight, with a strip of reinforcing armor cast into it to cover the area weakened by the penetrations. The large, single-digit Tac numbers on the forward sides of the turret ("7" on the first one) are characteristic of those seen on the Tigers of H.s.Pz.Abt.506.

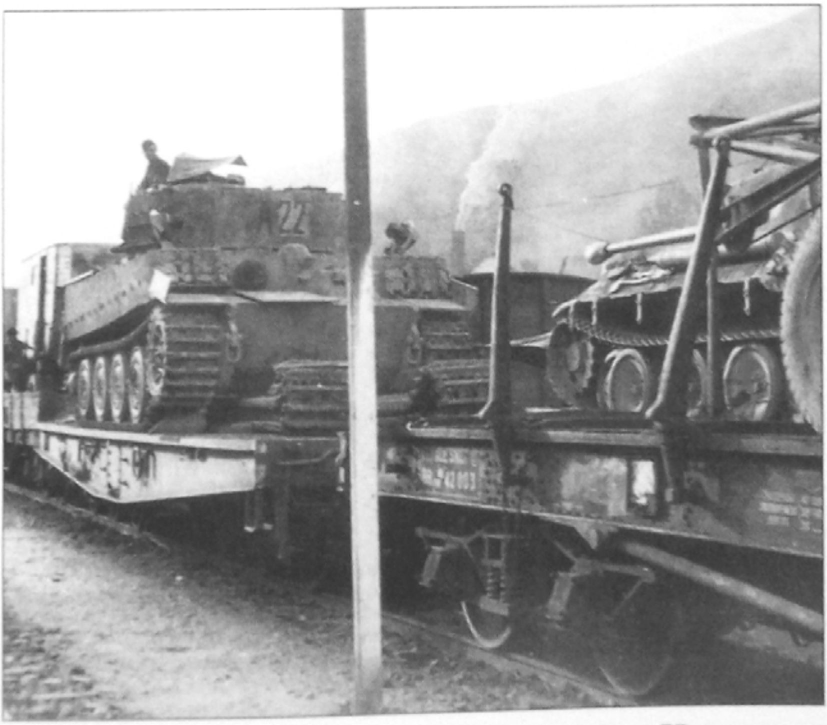


This familiar photograph shows an Sd.Kfz.251 Ausf.D transferring rounds for the 8.8cm Kwk36 L/56 main gun to a Tiger I from H.s.Pz.Abt.507 This partial view shows features of the late-production version, including a turret with cast Prismenspiegelkuppel (commander's cupola with periscopes), but without any form of pistol port in the area between the spare track links and the damaged bustle stowage locker; this would be almost precisely below the battle damaged area of the Zimmerit. Note the location of one of the two "C"-shaped tow hooks (the other was on the forward part of the superstructure roof, near the driver's hatch lid), the shape of the extended part of the hull side where the "U"-shaped tow clevis is mounted, and the tube-shaped tail lamp. Also prominent is the unit's insignia, a white figure wielding a hammer against an anvil on a black shield, edged in white.

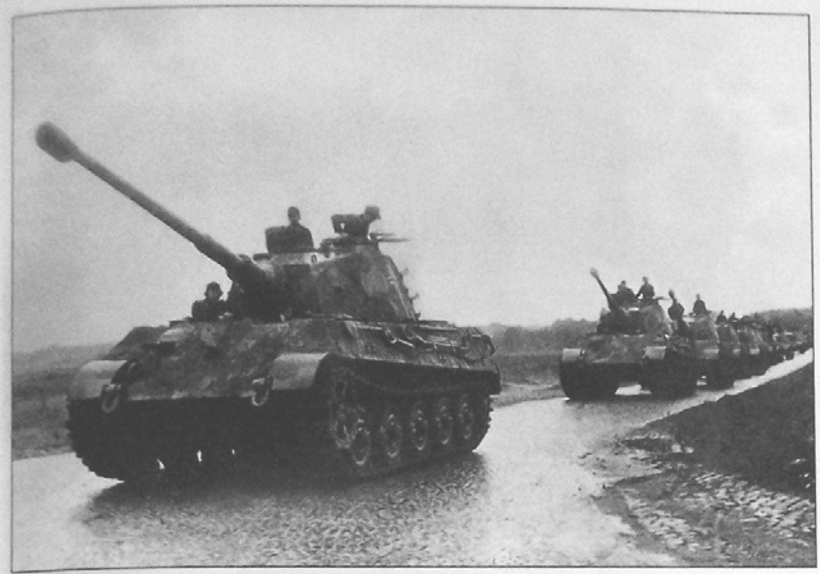


A pair of late-production Tiger Is navigate a flooded area, probably much to the consternation of their crews; such heavy tanks did not fare well on such terrain. The main visible late feature is the Gummigefederte Stahllaufrollen (rubber-cushioned steel-tired road-wheels). These Tiger Is have the single Bosch black-out driving head-lamp mounted in the center of the superstructure front plate. Previously two, and than one of these lamps were mounted at the front corners of the superstructure roof plate. They were too easily damaged if the turret was traversed with the main gun depressed; it is also quite likely that the firing of the main gun would cause them to become damaged. Prior to this official modification, at least one user unit, H.s.Pz.Abt.501 had specially modified mounts that placed each of the two lamps at either end of the superstructure front plate.



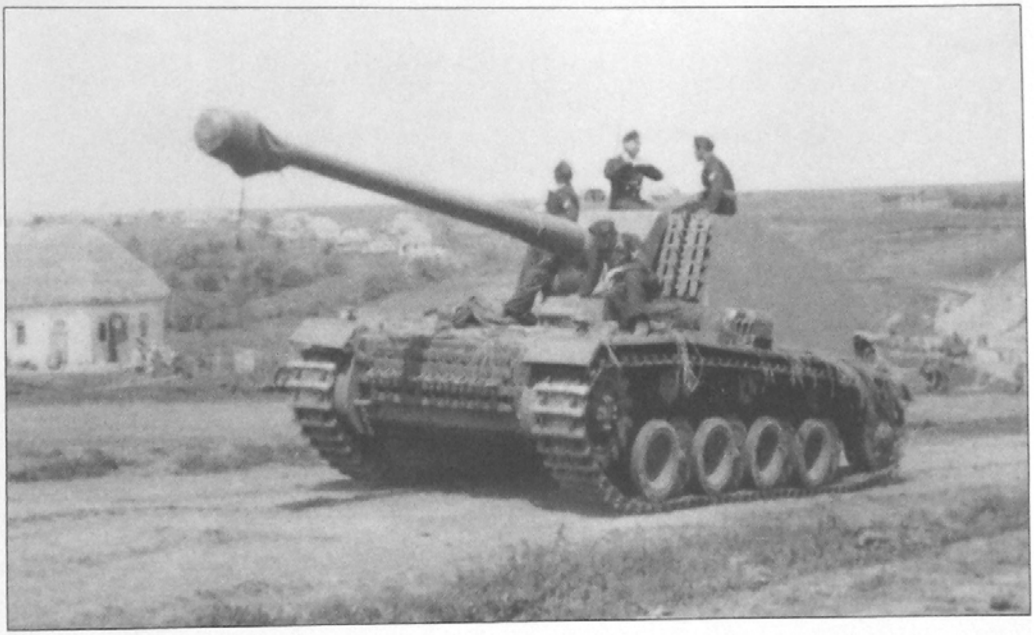


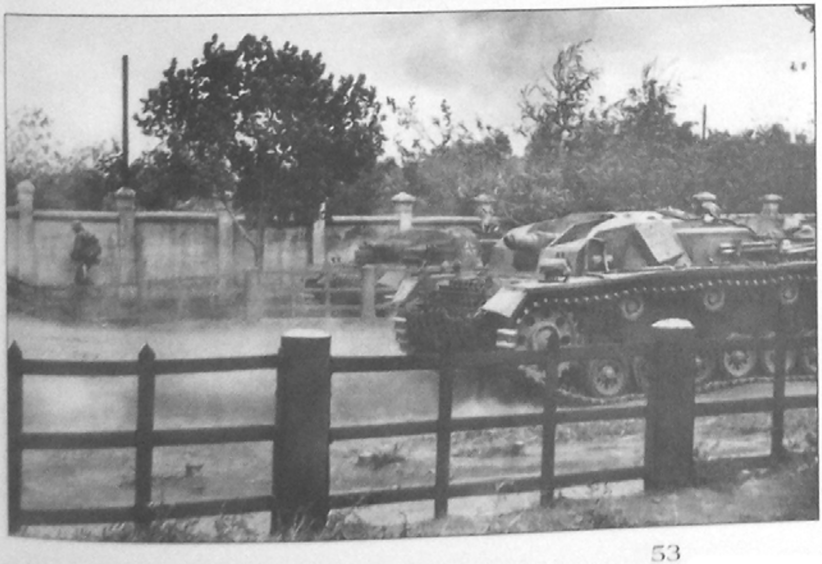
This pair of photographs depicts a late-production Tiger I belonging to III. Abteilung, Panzerregiment "Großdeutschland", from the division of the same name. It is loaded on the 80-ton capacity, six-axle, SSYMS railroad platform wagon. The first photo shows the Tiger I with its main gun at the six-o'clock position, being used as a support for the crew's Zeltbahn shelter, made up of four of these individual rain capes. The far rail wagon contains a 16-ton capacity Fries Bockkran (gantry crane) in its folded/retracted travel position. This was essential for the removal of the Tiger Is turret for maintenance and also so that the transmission/final drive unit could be lifted out through the turret ring. In the second photograph, some details of the Fries crane are seen, along with the front end of the same Tiger I. Note that it is wearing the narrow transportation tracks so that it could fit within the width restrictions of the European rail system; it just touches the platform's edge. The wide Kgs 63/725/130 cross-country tracks are stored beneath the tank, the side fenders are removed, the outer sections of the mud flaps are also folded up to fit, and the heavy tank is held in place with chocks and blocks. The later overlapping Gummigefederten Stahllaufrollen (rubber-cushioned steel-tired road-wheels), seen here, were easier to deal with than the earlier interleaved rubber-tired road-wheels, since none had to be removed for rail transport. Otherwise, this schwerer Panzer exhibits other features normally seen on late-production vehicles, such as the centrally-located Bosch head-lamp on the superstructure front plate and a full coat of Zimmerit. It is the subject of a color plate in this book.



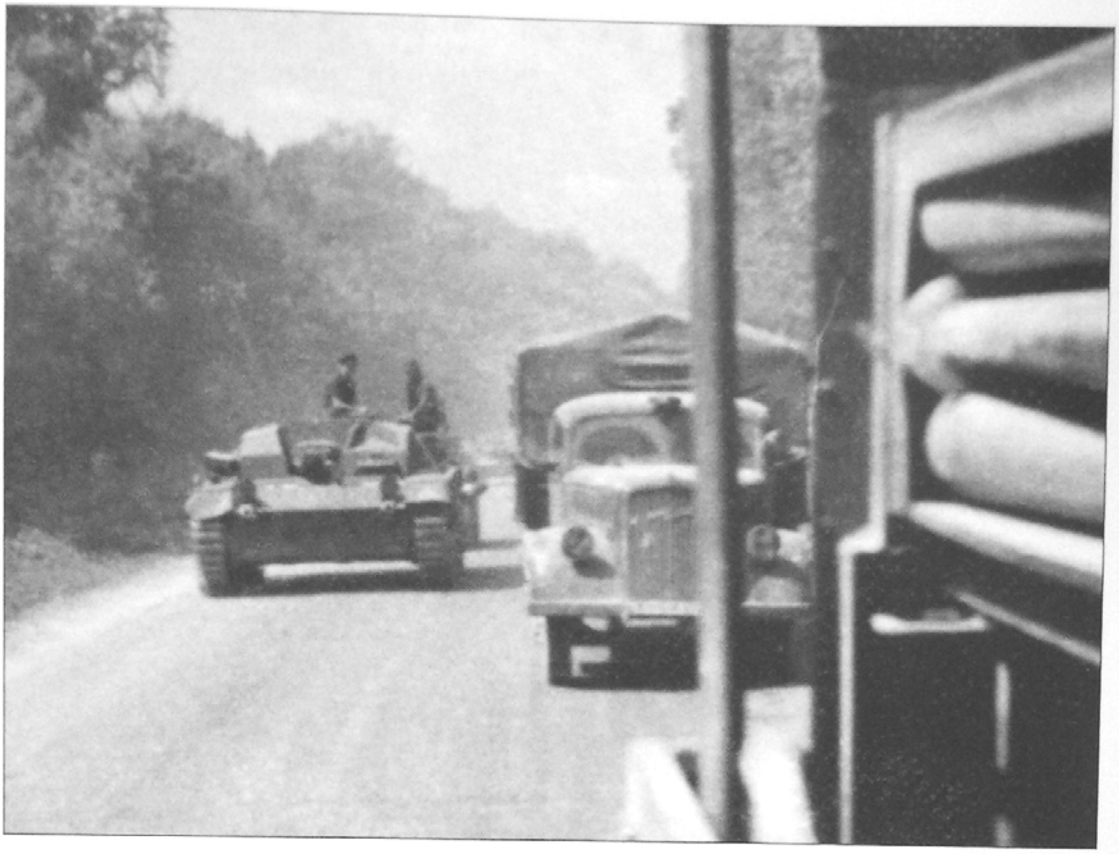
This Pz.Kpfw.VI Tiger II, also known as the Tiger Ausf.B, moves along a road with the remainder of its unit. They are all fitted with the narrow transport tracks, indicating that they are in the process of embarking or debarking from their railroad transport. All of the fenders have been removed from their sides, as well as the outer section of the front mud guards; the rear mud flaps had an outer folding section. The first Tiger II is a relatively early-production vehicle since it is covered in Zimmerit; this was discontinued in September of 1944. It mounts a geteiltes Rohr mit dem Längsbeweger (sectional gun tube with the longer sleeve) 8.8cm KwK43 L/71.

In the development of the Tiger series, the VK3001 chassis from Henschel eventually proved to be a dead-end (although, as seen here the lineage is obvious, especially in the area of the road-wheels). Two redundant test-bed chassis were modified as the 12.8cm Selbstfahrlafette L/61 (Panzerselbstfahrlafette V) VK3001 (H), and shipped to the Ostfront. They were assigned to Pz.Jäg.Abt.521 (note the insignia, a shield with cross, over a stag's head on the superstructure front-side plate), where one eventually fell into Soviet hands, and currently resides in the Kubinka collection.

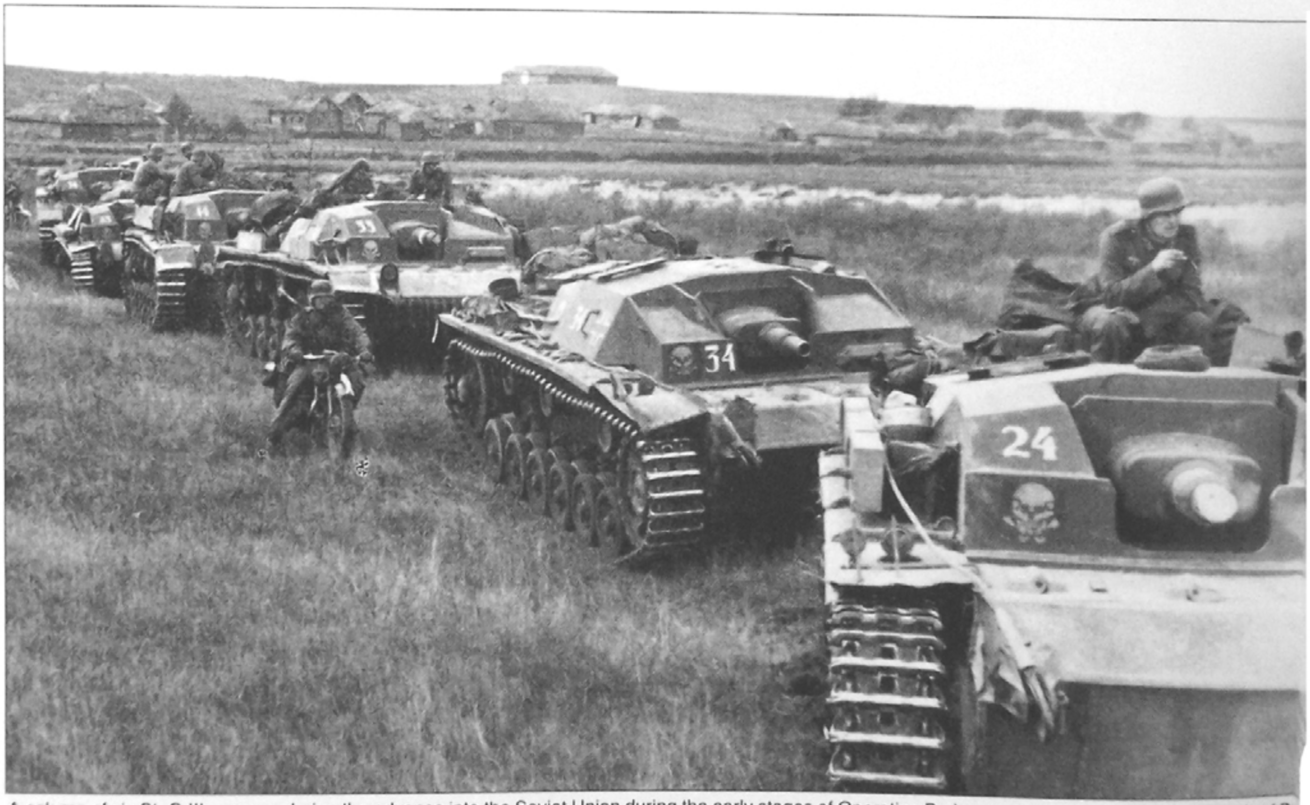




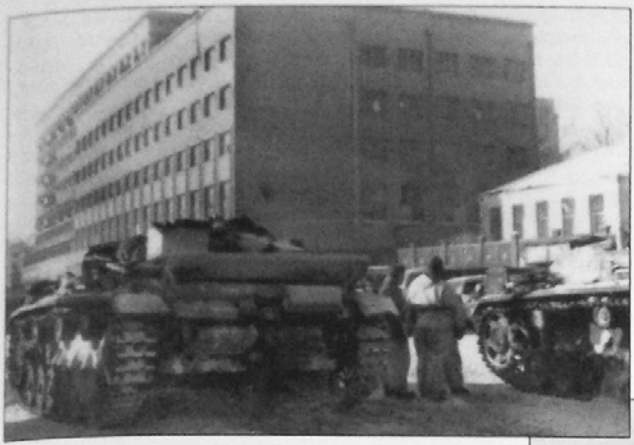
A pair of StuG.IIIs prepares the way for the accompanying infantry. Note that the near one has just fired its 7.5cm StuK; the gun is in recoil and the dust raised on the ground in front of it by the muzzle blast has yet to settle. This is probably an Ausf.A since it has the earlier drive sprocket and the narrower 38cm track; the cut-out in front of the gunner's Sfl.Z.F. sight was seen only on this model and the follow-on Ausf.B. Note the commander with his steel-helmeted head out of his hatch and his deployed Scherenfernrohr (scissors periscope); an exposed position in such close combat was necessary to use his gun to full advantage.



A column
including
Blitz, spe
Sturmges
Ausf.B, som
the Ostfront during the
initial stages of
Operation Barbarossa.
The StuG.III is
identified as an Ausf.B
by the cut-out in front of
gunner's Sfl.Z.F. sight.

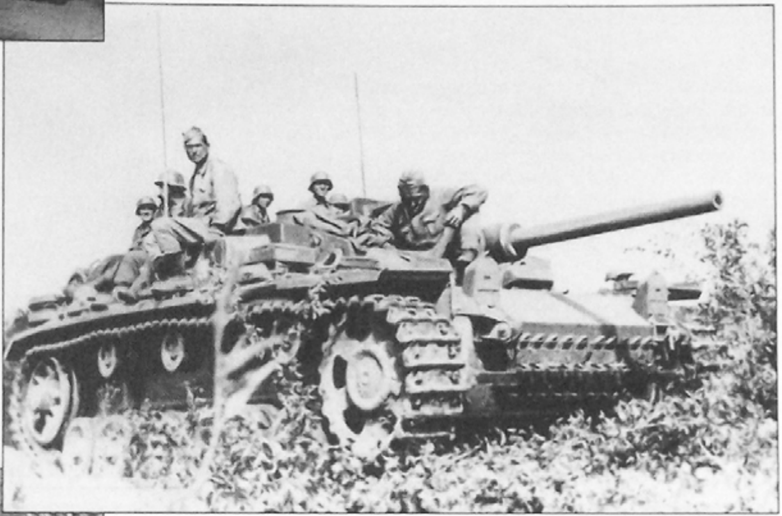


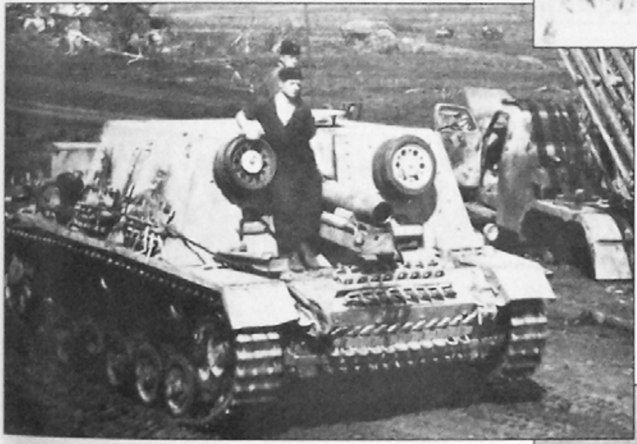
A column of six StuG.IIIs pauses during the advance into the Soviet Union during the early stages of Operation Barbarossa. The first assault gun is an Ausf.B; the cut-out in front of gunner's Sfl.Z.F. sight can be seen at the edge of the original photograph. It is followed by an Ausf.C/D with Sfl.Z.F.1 gun sight and modified superstructure plate in front of it; note also the revised configuration of the superstructure on the starboard side, above the skull-and-crossbones insignia of StuG.Abt.192. Compare the superstructure to the following assault guns, all of which are Ausf.Bs. This Ausf.C/D is the subject of a color plate in this book.



A pair of StuG.III Ausf.C/Ds loiter in the street of a Soviet city. Note the widened new-pattern drive sprocket, introduced along with the wide 40cm tracks, seen on both vehicles. The near assault gun is heavily stowed on its engine deck, while the far one shows evidence of a scruffy winter whitewash camouflage.

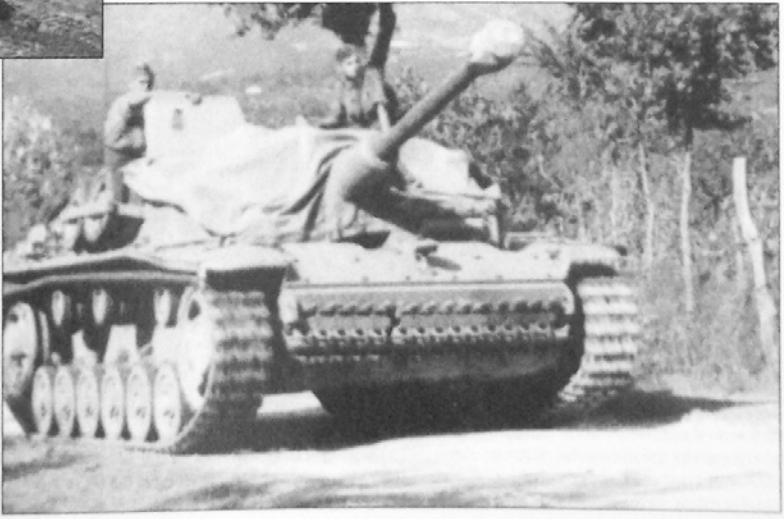
This StuG.III Ausf.F shows two antennae, indicating that it is a command vehicle. It is identified as an Ausf.F due to the long StuK40 L/48 (here without a muzzle brake) and earlier fabricated tow shackles on the bow. The later F/8 was based on the Ausf.J hull and had tow shackle attachment points drilled out of extensions to the hull side plates. The large raised dome for the crew compartment ventilator fan can also be seen on the casemate, between the two helmeted men in the center of the photograph. This is seen on both the Ausf.F and F/8.

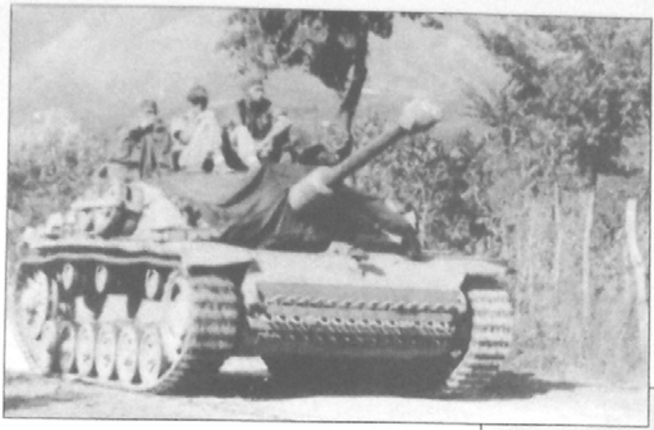




While the battle for the possession of Stalingrad raged, Hitler, in his usual way, took a hand in proposing the design of an AFV. This design became the Sturminfanteriegeschütz 33, which mounted the 15cm s.IG33 infantry gun on re-built StuG.III chassis. A total of 24 were built and many were lost with the capitulation of the German 6. Armee at Stalingrad. By April 1943, those which remained in service were assigned to Panzerregiment 201, 23. Panzerdivision, where they comprised a Sturminfanteriegeschützbatterie. One such vehicle, Tac number G7 is seen here during that spring as it passes a destroyed Soviet BM-13 "Katyushka" (Little Catherine), also known by the Germans as "Stalin's Organ".

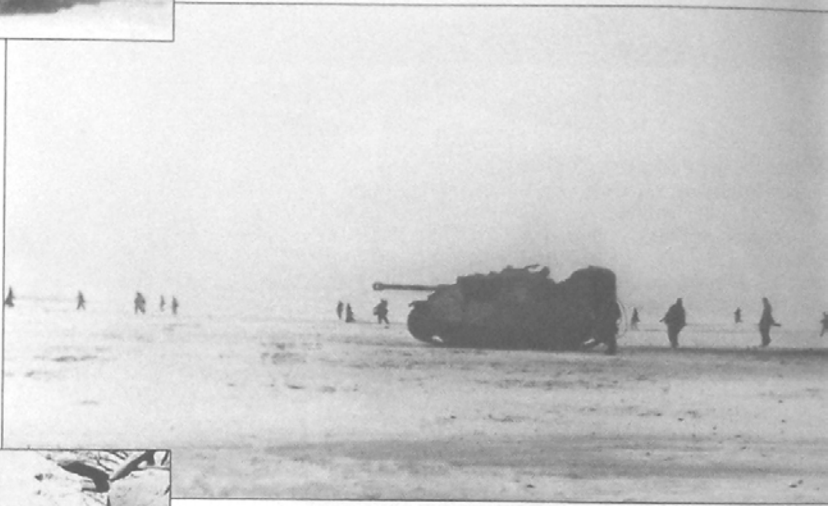
The most widely-produced model of the Sturmgeschütz III was the Ausf.G, of which approximately 7,800 were built beginning from December 1942 until the end of the war. Armed with the long 7.5cm StuK40 L/48, like its immediate predecessors the Ausf.F and F/8, it featured a completely re-designed superstructure and had armor up to 80mm. This is an earlier version of the Ausf.G with bolted-on 30mm Zusatzpanzerung (appliqué armor) fitted to the 50mm superstructure front, glacis plate and lower bow plate. Note also the shield on the roof, which could mount the standard MG34 or MG42 for use by the loader; it was hinged to fold down and forward when not in use.





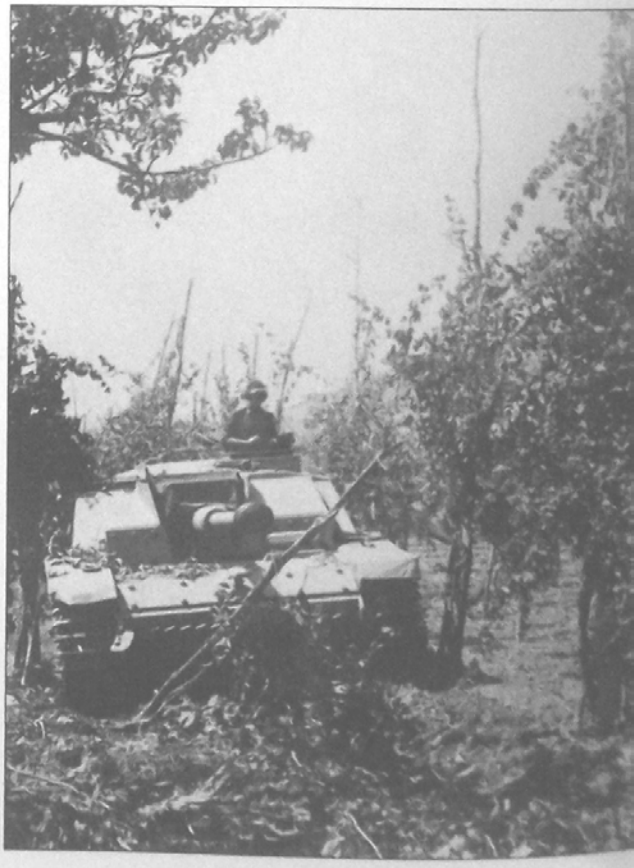
Appearing to be the same Sturmgeschütz III Ausf.G as in the previo photograph, a close examination will reveal that it is not. Although it obviously a photograph taken at the same place and at nearly the sam time, the major difference is that this particular Ausf.G has the later 80m armor as a basis, not the "50+30" seen in the previous photograph. Note th there are no bolts on the glacis or bow plates. Much likes its companion, th assault gun also has a rather large foul-weather tarp which was a usef addition for an AFV with a gun mount that was not completely sealed agains nature's elements. Also quite noticeable here is the distance between th first and second return roller, which does not equal the distance between th second and third.

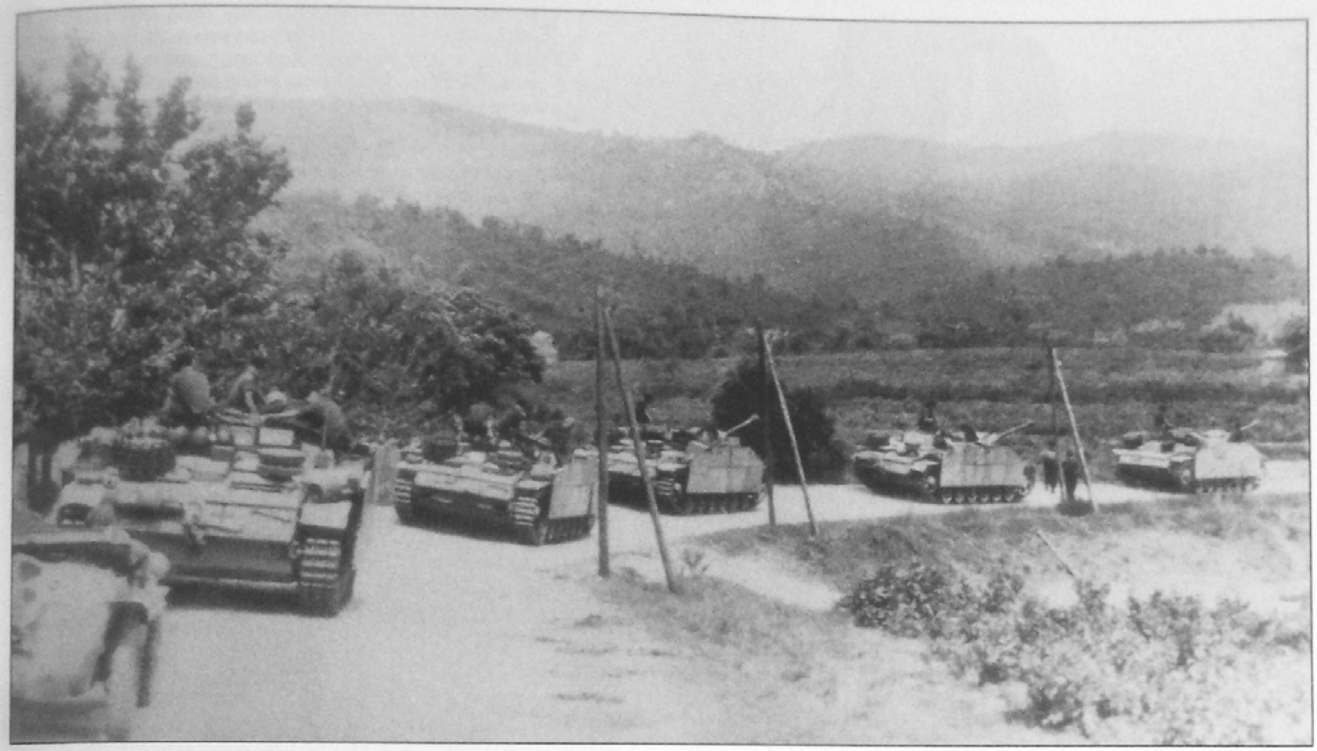
A Sturmgeschütz III Ausf.G supports a group of widely-dispersed infantrymen on the wintry steppes of the Soviet Union. From this distance, it can be differentiated from the earlier Ausf.F and F/8 by the commander's cupola, which was first introduced with this model. Note the very small object to the cupola's front; it is the commander's Scherenfernrohr (scissors periscope), which provided him with long-range vision from under protection. This Ausf.G is fitted with the earlier pattern Schürzen, which had upper and lower sections for the two middle plates and a different hanging arrangement; this can be discerned in this photograph due to the difference in the colors of the plates.



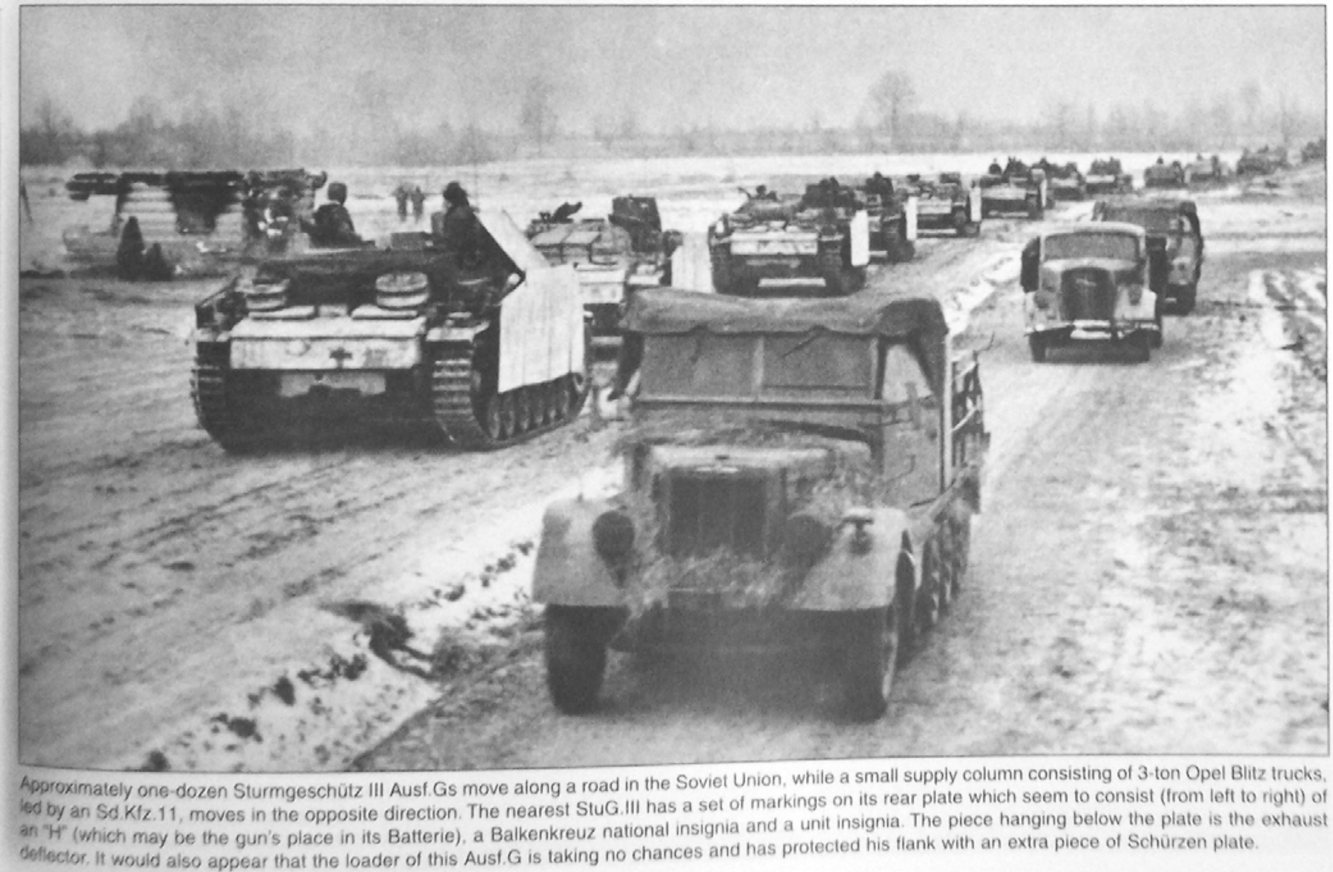
Although it is mostly obscured by the tree in the foreground, what is quite likely a Sturmgeschütz III Ausf.G makes its way past a ruined rural structure. It mounts the long StuK40, and the hinged MG shield in front the loader's hatch can be seen in the folded-down position. Note how this Ausf.G uses the undulations of the terrain as well as the fence in the near distance to provide concealment from an approaching enemy, and how the rural structure masks its vulnerable flank from direct enemy attack. Aside from infantry support in the assault, the StuG.III gained a well-deserved reputation as an extremely efficient tank destroyer; the position this one currently occupies is part of the reason why.

This Sturmgeschütz III Ausf.G lays in wait in an orchard, using the trees as cover. This assault gun has the added 30mm Zusatzpanzerung (appliqué armor) bolted-on to the superstructure front, glacis plate and lower bow plate, which with the base of 50mm gave it a total of 80mm of protection in its frontal arc. The distinctive commander's cupola is visible here as is the slab-sided welded gun mantle. Note that there is a tarp covering the mantle, a common sight since the area around it (even though there were baffles to prevent shrapnel or shot "splash" from entering the fighting compartment) was open to the elements, such as heat, cold, dust, rain and snow. Note the "C"-shaped tow hook attached to the port-side tow point, which itself was produced by extending the hull side plate and drilling a hole.

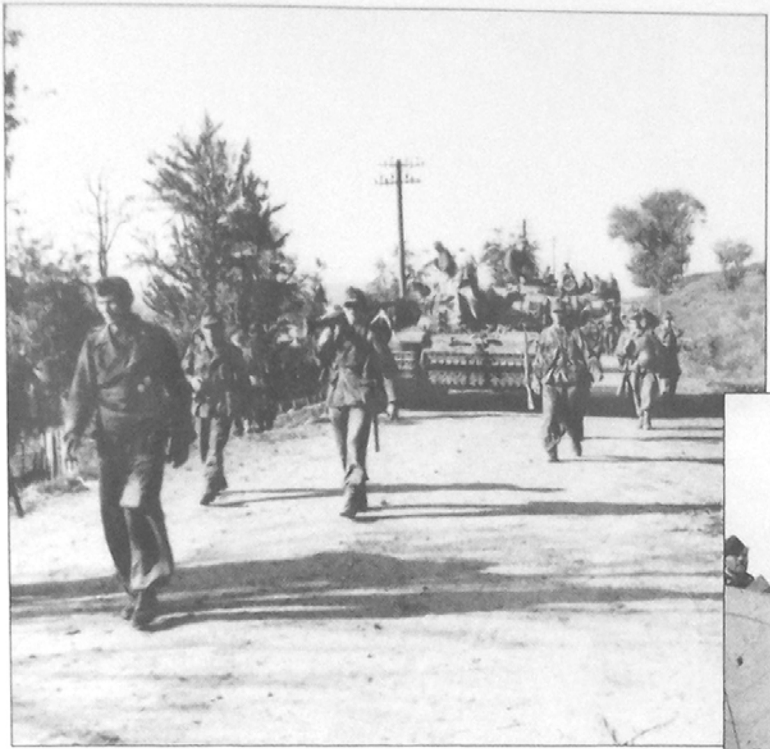




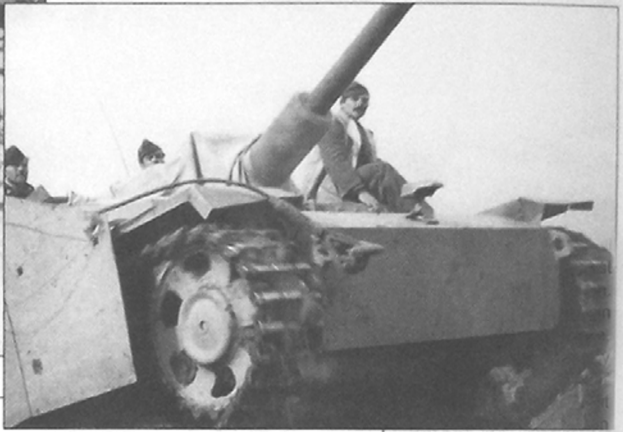
A column of five Sturmgeschütz III Ausf.Gs pause along a dusty road followed by a Volkswagen Typ 166 Schwimmwagen light amphibious car. Of interest is that the second and fifth Ausf.Gs are based on the Pz.Kpfw.III Ausf.M chassis, which was optimized for deep wading; note the unique exhaust mufflers at the rear ends of each of these two assault guns. These assault guns all have stowage on their rear superstructure plates consisting of such things as helmets and water bottles, while most have a short section of spare track stored rolled around the spare road-wheels on the engine deck. The earlier pattern Schürzen plates are fitted to what are otherwise rather mundane-looking vehicles.



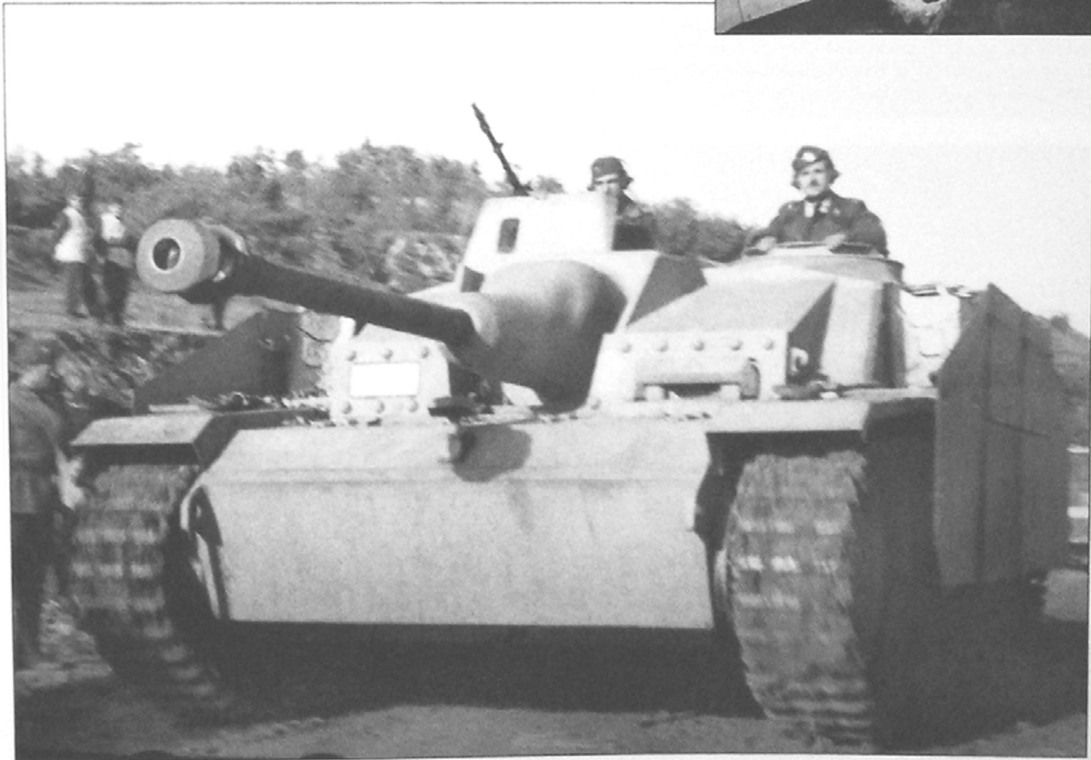
Approximately one-dozen Sturmgeschütz III Ausf.Gs move along a road in the Soviet Union, while a small supply column consisting of 3-ton Opel Blitz trucks, led by an Sd.Kfz.11, moves in the opposite direction. The nearest StuG.III has a set of markings on its rear plate which seem to consist (from left to right) of an "H" (which may be the gun's place in its Batterie), a Balkenkreuz national insignia and a unit insignia. The piece hanging below the plate is the exhaust deflector. It would also appear that the loader of this Ausf.G is taking no chances and has protected his flank with an extra piece of Schürzen plate.



An assault gun crewman advances along with a group of infantrymen, past a group of road-bound Sturmgeschütz III Ausf.Gs. In the offense or defense, it was a common (and prudent) practice for a vehicle or unit commander to dismount and reconnoiter on foot in order to properly assess the situation before putting his command in harm's way. Alternate positions, routes of advance and retreat, as well as positions for supporting elements would be carefully assessed, time (and the tactical situation) permitting. Of interest is the so-called "Ostketten" (East tracks) fitted to the bow plate of the leading Ausf.G. These tracks were wider for better flotation on soft ground and somewhat resembled the tracks seen on the Tiger I. They are often confused with the similar "Winterketten" (winter tracks); both were interchangeable with the Pz.Kpfw.IV.

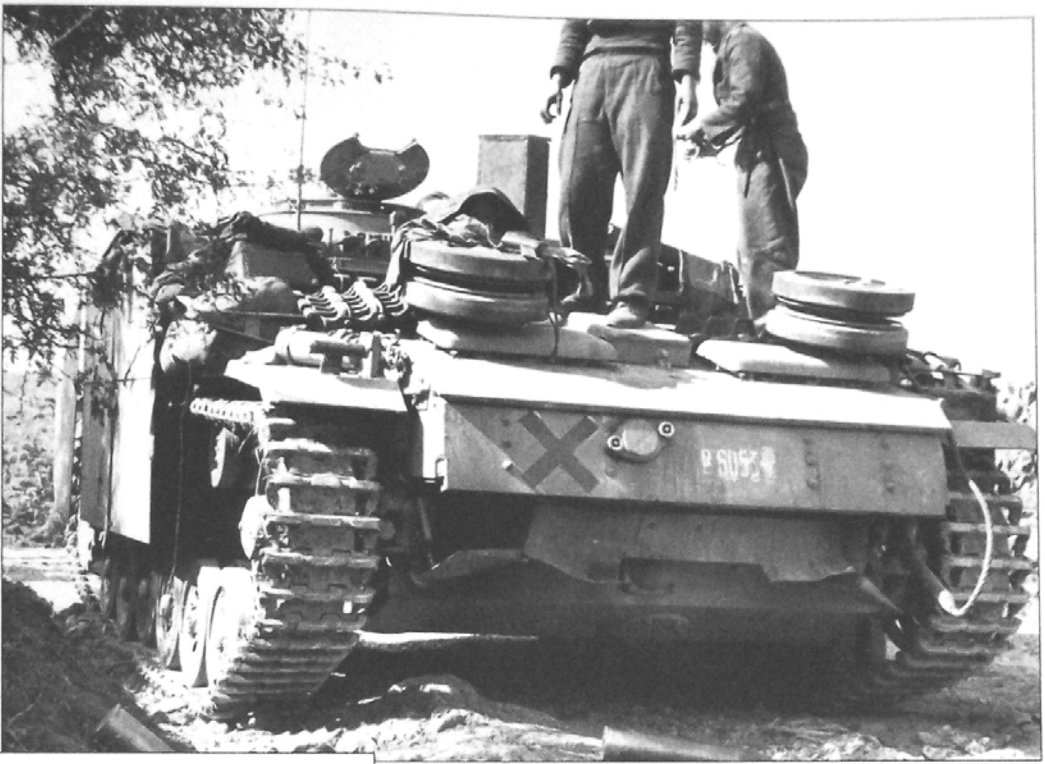


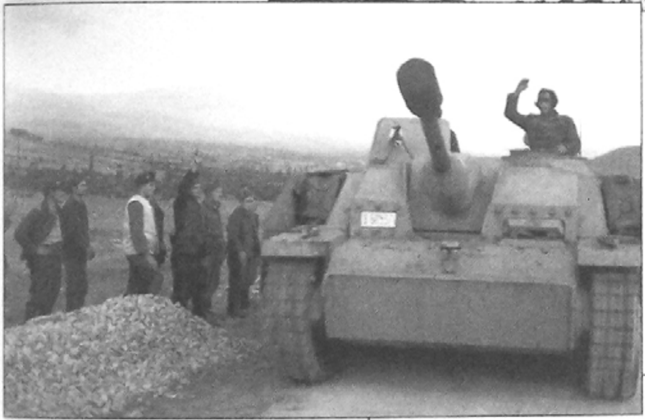
Along with the Pz.Kpfw.IVs and other AFVs seen in this series of books, Bulgaria also received 55 Sturmgeschütz III Ausf.Gs, which they designated "Maybach T-III". These vehicles, one of which is seen here climbing a small rise, equipped the 1st Assault Gun Battalion. Note the uniforms on the visible crewmen, which, although they have a "German" appearance, are a bit different, especially in the head-gear. This Ausf.G is built on a later hull with the single 80mm plates on the glacis and bow; note the "ready-for-use" tow cable attached by a tow hook to the drilled hull-side extensions. Very prominent in this photograph is the Notek black-out driving head-lamp and its mount, situated on the center of the glacis plate.



This Bulgarian Maybach T-III (Sturmgeschütz III Ausf.G) has some subtle but unusual features, which will reveal themselves to the sharp-eyed observer. At first glance, it would appear that the glacis and bow plates are of 80mm thickness; this is not the case. Compare this photograph to the one immediately previous to it and note that the hull side plate extends past the bow plate in this, but not the other. Note also that the starboard-side superstructure front plate has bolted-on 30mm Zusatzpanzerung (appliqué armor); it too is not a single 80mm plate. The port-side superstructure plate always had the bolted-on armor, since it had to be based on a 50mm plate. This was because the driver's visor was the Fahrersehklappe 50, which could only be used on a plate of that thickness. This Ausf.G has three other notable details. The first is the cast armor shield welded in front of the commander's cupola, the second is the position of the MG34 on the loader's folding shield; it is in the upper-most mount for use against aircraft. The third is the cast Topfblende (pot handle) gun mantle. Finally note the Bulgarian registration plate on the starboard-side superstructure plate; the numbers in this series ranged from B60501 to B60555.

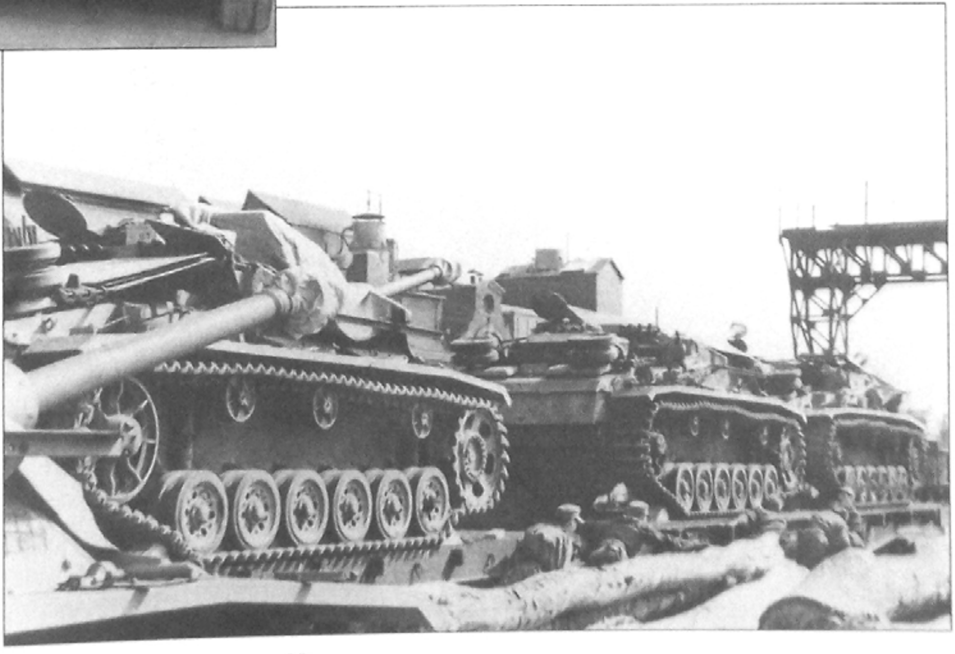
This rear view of a Bulgarian Maybach T-III (Sturmgeschütz III Ausf.G) shows several interesting features. Beginning with the markings, the partly-obscured vehicle registration number (B605??) is stenciled in white characters on the superstructure rear plate, instead of black characters on a white plate. The St. Andrew's Cross is painted on in black with no border. This photograph also affords a fine view of the exhaust system deflector plate as well as the baffles on either side of it. From this angle, the main identifying feature of this Ausf.G is the commander's cupola. The forward part of the hatch lid was hinged separately, which allowed for the use of the Scherenfernrohr (scissors periscope) from under protection with the remainder of the lid closed.

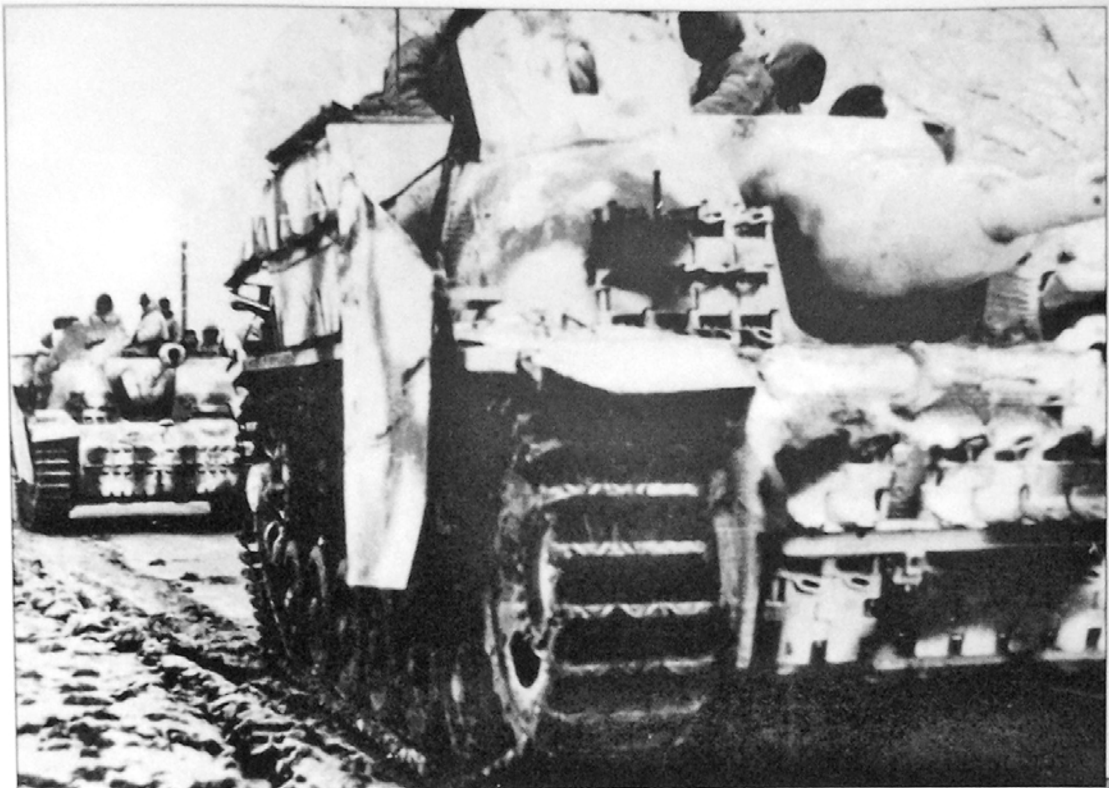




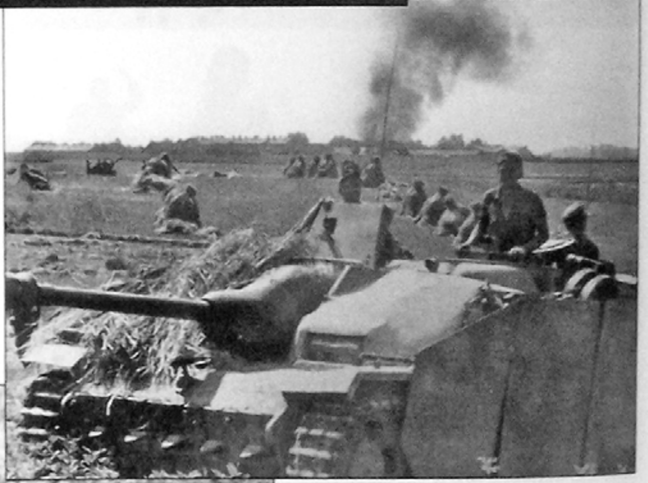
This Maybach T-III (Sturmgeschütz III Ausf.G) shows the more typical style of vehicle registration plate, featuring black characters on a white rectangle with a black border; in this case the number is B60537. This Ausf.G features the cast armor shield welded in front of the commander's cupola, the loader's folding shield with the MG34 protruding through an opening (note the extended bipod) and the cast Topfblende (pot handle) gun mantle. The hull appears to be based on 50mm of armor plate without the bolted-on 30mm Zusatzpanzerung (appliqué armor). Note the stowage of 20-liter jerry cans on both sides of the superstructure, on the fenders, with the mounting rails for the Schürzen holding them in place. It also seems that this is a command vehicle as there are rod antennae on both sides of the rear superstructure plate. This assault gun is the subject of a color plate in this book.

A train loaded with Sturmgeschütz III Ausf.Gs is seen in a rail-yard. Beginning with the fragment of the Ausf.G in the immediate foreground, take note of the "cross-hatch" style of Zimmerit which is barely seen on the forward-most edge of the superstructure front plate. This assault gun also has the welded slab-sided gun mantle as can be seen by the gun tube's sleeve with its slotted fastening screws. The vehicles on the rail cars have late all-steel return rollers with six reinforcing ribs, as well as the drive sprocket without the hub cap to protect the rim bolts. There are rails for Schürzen on each, with the plates themselves seen stored on the engine deck so as to conform to rail shipping width limitations. Again note that no safety chains are in evidence to secure these AFVs to the rail cars; there are only wooden wedges fore and aft (and probably on the platform inside the track runs to prevent lateral shifting).

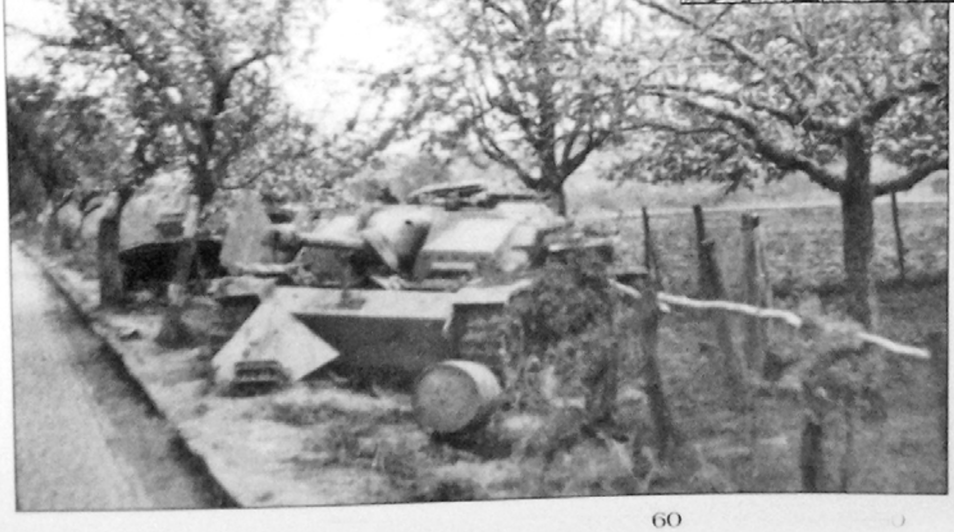




This pair of Sturmgeschütz III Ausf.Gs are full of unique and interesting features. Firstly, both have the wider Ostketten (East tracks) hanging on brackets on their bow plates; they also feature concrete over the superstructure front, Heckzurrung (external travel lock for tank gun) on the glacis plate next to the Notek black-out driving head-lamp and the cast Topfblende (pot handle) gun mantle. The hanging rails for the Schürzen are of the later style with triangle-shaped hooks (compare to those in the previous photograph). The first Ausf.G has a large field-applied stowage locker on the fender next to the superstructure and the folding shield for the loader's MG.

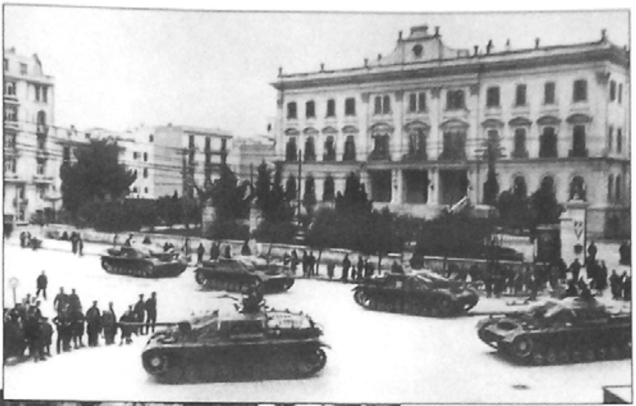


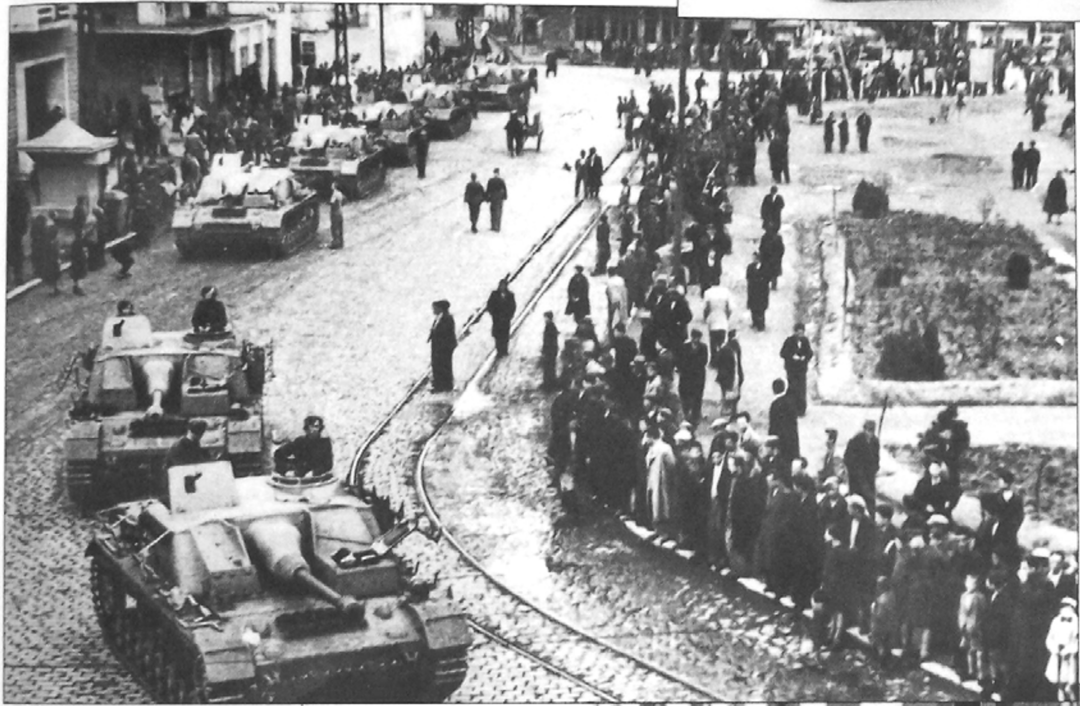
Here we see a photograph of another Sturmgeschütz III Ausf.G with concrete to reinforce the armor protection of its frontal arc; note the contours around the Fahrersehklappe 50 (driver's vision port for 50mm armor) as well as the protruding Sfl.Z.F.1a gunner's sight just behind this application. The 7.5cm StuK40 L/48 is housed in the cast Topfblende (pot handle) gun mantle and there is a cast armor shield welded in front of the commander's cupola. The crew of this command vehicle (note that it mounts two rod antennae behind the casemate) has used tracks from a Soviet T-34 to add protection to the bow plate, while the Schürzen are of the later style consisting of single plates for the two center segments.



A derelict Sturmgeschütz III Ausf.G lies along the side of a road amongst other debris of war. Notable features are the cast Topfblende (pot handle) gun mantle, which has an opening for a co-axial MG34, cast armor shield welded in front of the commander's cupola and single-piece 80mm plate on the starboard-side superstructure front plate; note that there are no tell-tale mounting bolts as seen on the earlier "50+30" style. The gun tube is resting on the extended Heckzurrung (external travel lock for tank gun) on the glacis plate next to the headless Notek mount. A Schürzen plate, a small segment of track and a 200-liter fuel drum rests on the ground in front of the assault gun.

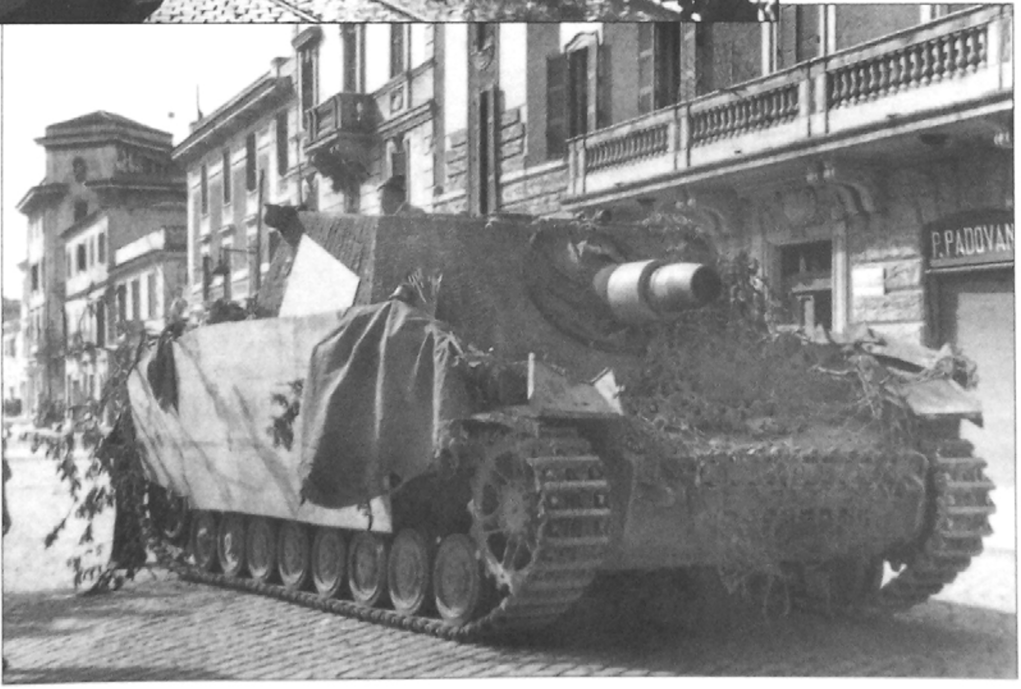
A group of Sturmgeschütz IVs parade before the local population. All have the later style of mounting rails for the Schürzen, which feature triangle-shaped hanging hooks; no plates are in evidence. Although difficult to tell at this distance, it would appear that many of these assault guns have the later style cast idler wheel with seven ribs. All have the cast Topfblende (pot handle) gun mantle, cast armor shield welded in front of the commander's cupola, and folding shield for the loader's MG. Note that because the casemate, adapted from the StuG.III Ausf.G sat higher on the hull (to allow for clearance over the fuel tanks in the fighting compartment for the gun mount), the tray for carrying two spare road-wheels is mounted on brackets above the fender.

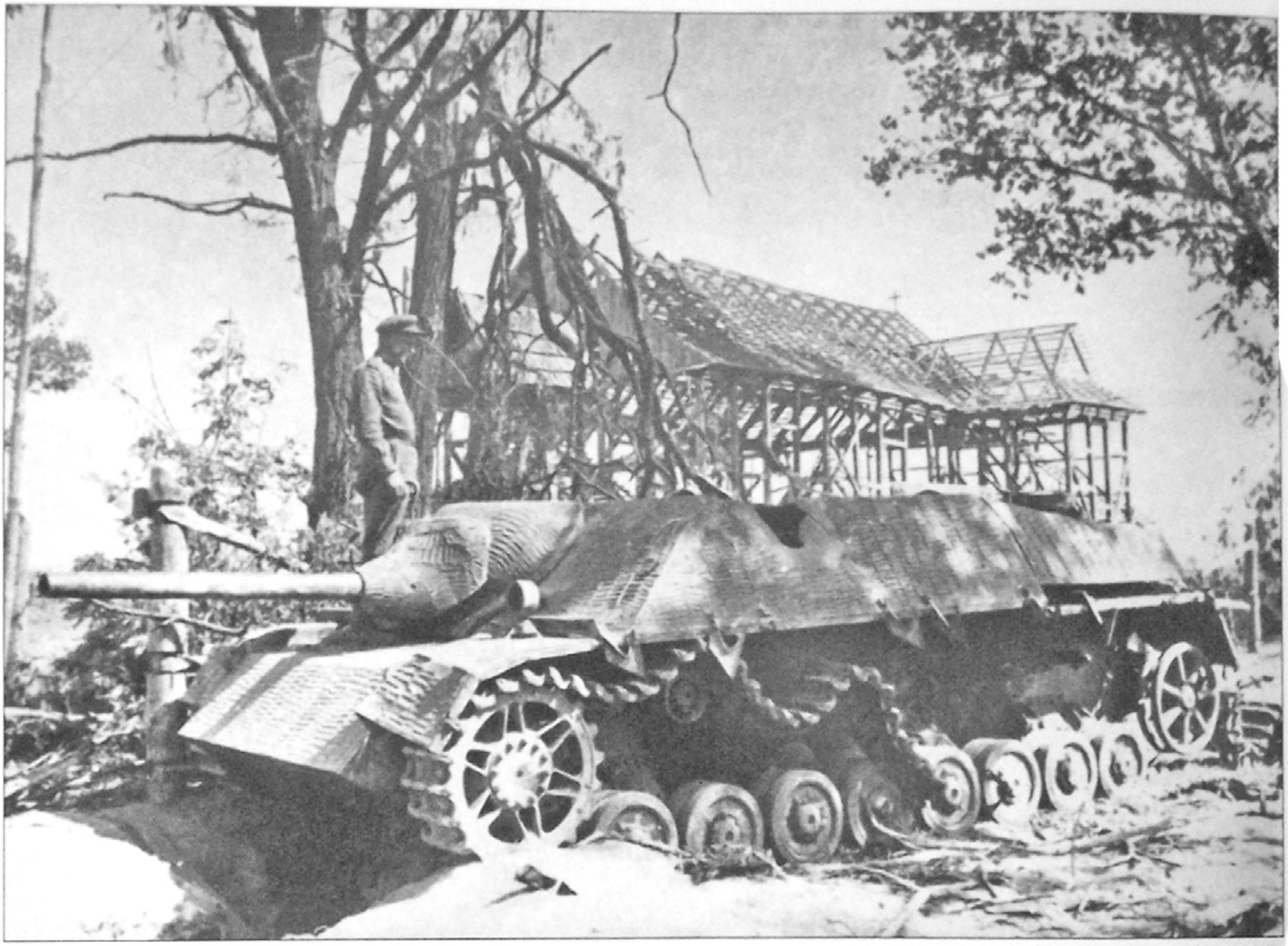




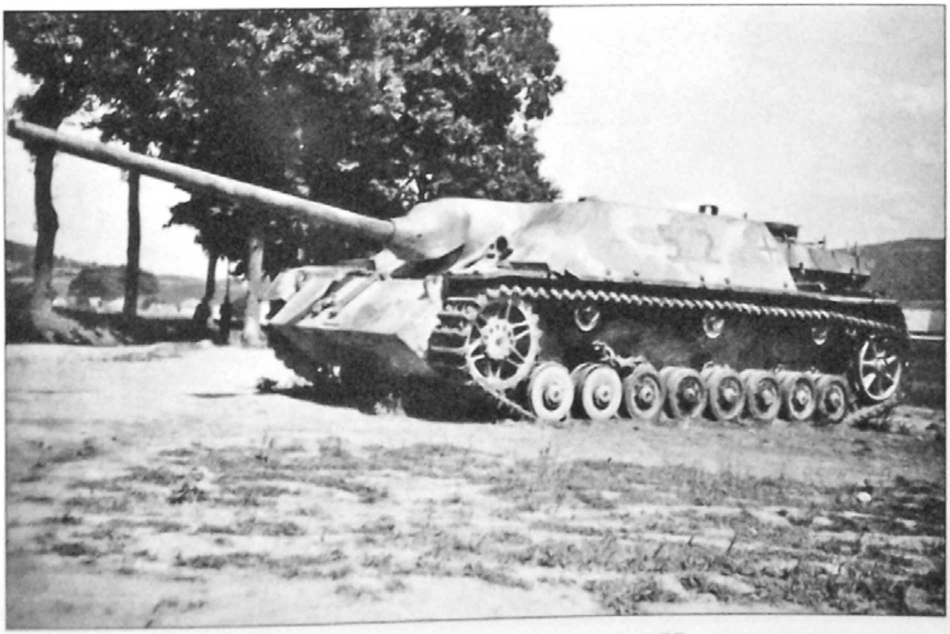
Another group of Sturmgeschütz IVs on parade, which show the same features as those in the previous photograph: cast Topfblende (pot handle) gun mantle, cast armor shield welded in front of the commander's cupola, and folding shield for the loader's MG. One other detail is a diagonal strip welded to the sloped front of the casemate, just behind the driver's hatch; this was to divert rain water away from the hatch opening.

Popularly known as the "Sturmpanzer", or more formally as "Sturmgeschütz IV für 15cm Sturmhaubitze 43 (Sd.Kfz.166)", this assault howitzer belonging to Sturmpanzerabteilung 216 rests on an Italian street (note the name "P. Padovani" over the doorway on the building at right) some time in 1944. It is a companion photo of the same vehicle featured in an earlier volume in this series. It is a middle-production version based on the Pz.Kpfw.IV Ausf.H chassis (note the drive sprocket associated with the reinforced final drive unit, introduced with the Ausf.H). This Brummbär (Grizzly Bear) is covered in Zimmerit and has the later style of mounting rails for the Schürzen, which feature triangle-shaped hanging hooks.

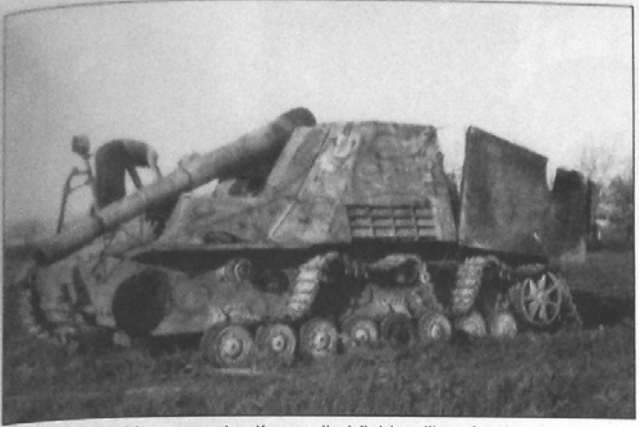


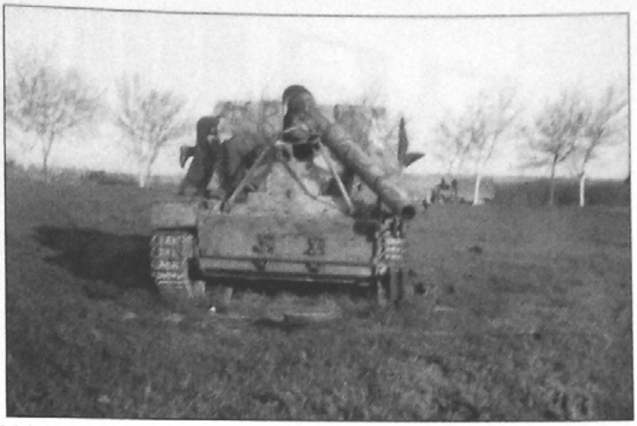


A destroyed Jagdpanzer IV is inspected by a Soviet soldier as it sits along-side a road. Also known as Panzerjäger IV (7.5cm PaK39 (L/48) (Sd.Kfz.162) this vehicle was an attempt to provide heavier armor and a lower silhouette (without disrupting production) for a Pz.Kpfw.IV-based tank destroyer, mounting virtually the same gun as the turreted Panzer. It carried 79 rounds for its main gun, which was the same as that mounted inside the much smaller and lighter Jagdpanzer 38. This Jagdpanzer is covered in Zimmerit and is based on the Pz.Kpfw.IV Ausf.H as it mounts the later reinforced ZF SSG 76 transmission/final drive unit with its characteristic drive sprocket. Note how the superstructure side plate has "scaled-away" due to a hit, and how the shock it produced has riddled the suspension components.

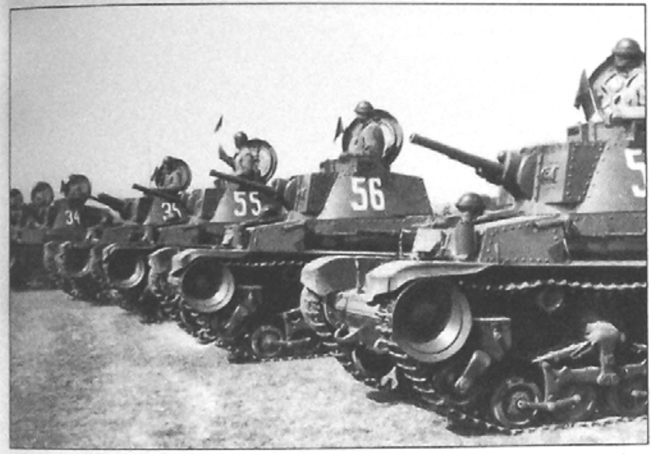


The Jagdpanzer IV further evolved into the Panzer IV/70 (V), which mounted the same 7.5cm L/70 weapon as did the formidable Panther medium tank. Also known as (among many other names) Panzerwagen 604/10 (7.5cm PaK42 (L/70) (Sd.Kfz.162/1), this sleek tank destroyer carried 60 rounds for its extremely powerful main gun. This particular vehicle is from the later batches as is evidenced by the presence of only three (instead of four) return rollers, which are of the all-steel type. The welded, tube-steel section idler wheel first seen with the advent of the Pz.Kpfw.IV Ausf.F, but later replaced by a cast version, was re-introduced towards the end of the war as is evident here. A pair of Gummigefederte~~n~~ Stahllaufrollen (rubber-cushioned steel-tired road-wheels), another late feature, are also mounted on the first bogie truck. The supplemental armor plate normally seen behind the casemate, over the engine compartment side ventilation grills, is absent in this photograph. This tank destroyer is the subject of a color plate in this book.





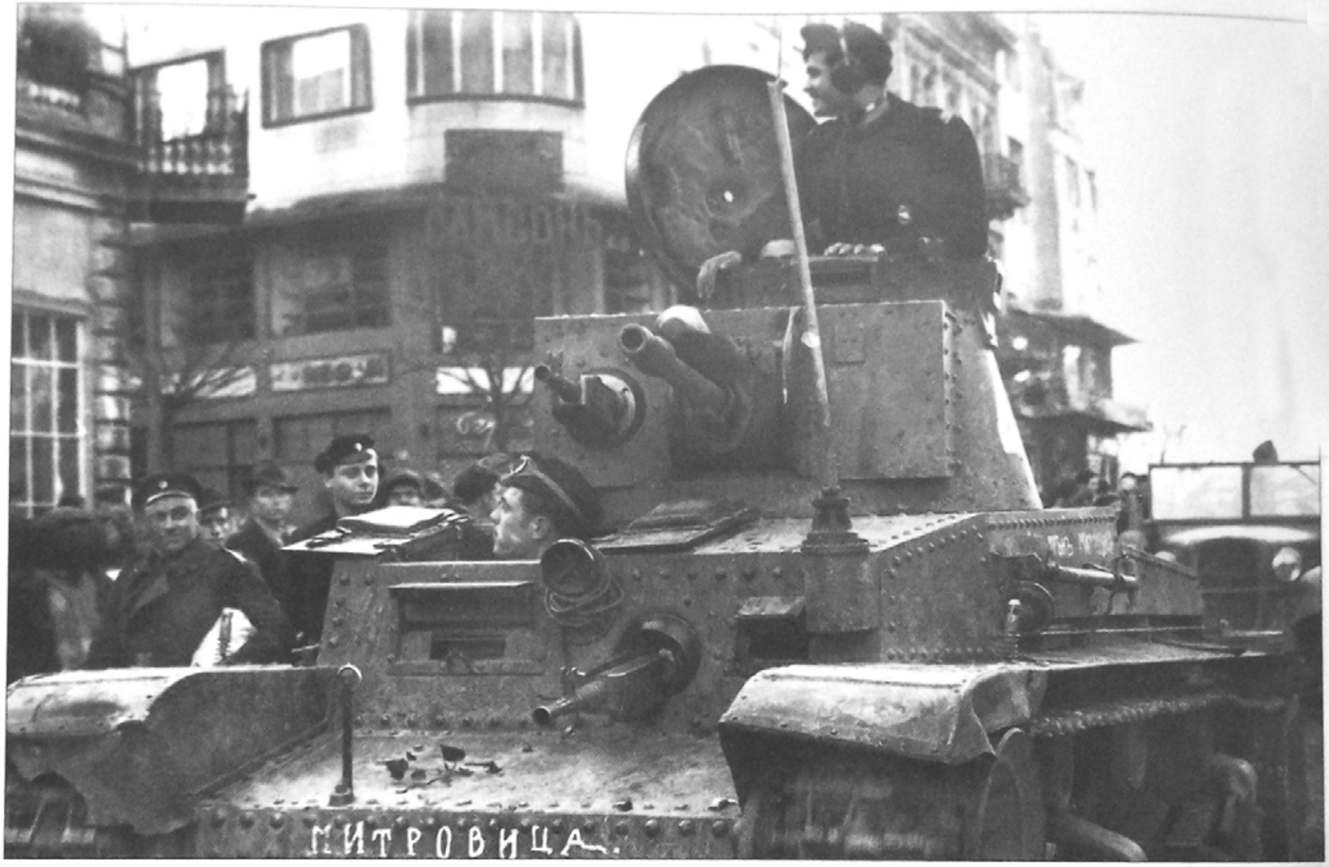
In order to provide armored self-propelled field artillery for the mobile Panzerdivisionen (armored divisions) Germany developed the Geschützwagen III/IV für s.FH18/1 (Sf.) (Sd.Kfz.165) "Hummel" (Bumble Bee). This mounted a modified version of the standard 15cm schwere Feldhaubitze 18 (heavy field howitzer) on a hybrid Pz.Kpfw.III/IV chassis. The HL 120 TRM engine of the Pz.Kpfw.IV was moved to the center to provide for a large gun compartment at the rear, the ZF SSG 77 transmission and final drive from the Pz.Kpfw.III was mounted at the front and the suspension components of the Pz.Kpfw.IV were mounted to a modified hull. This destroyed vehicle belongs to Panzerartillerieregiment 119, 11. Panzerdivision, and is seen somewhere on the Western front towards the war's end. It features later widened driver and radio operator's compartment, all-steel return rollers, and has had its port-side drive sprocket and final drive housing removed. In the front view, note that the "Ghost Division" insignia is seen on both sides of the superstructure angled plates and that the camouflage on the bow plate ran over to the spare track links; their absence shows how the pattern stopped where they were placed. This vehicle is the subject of a color plate in this book.



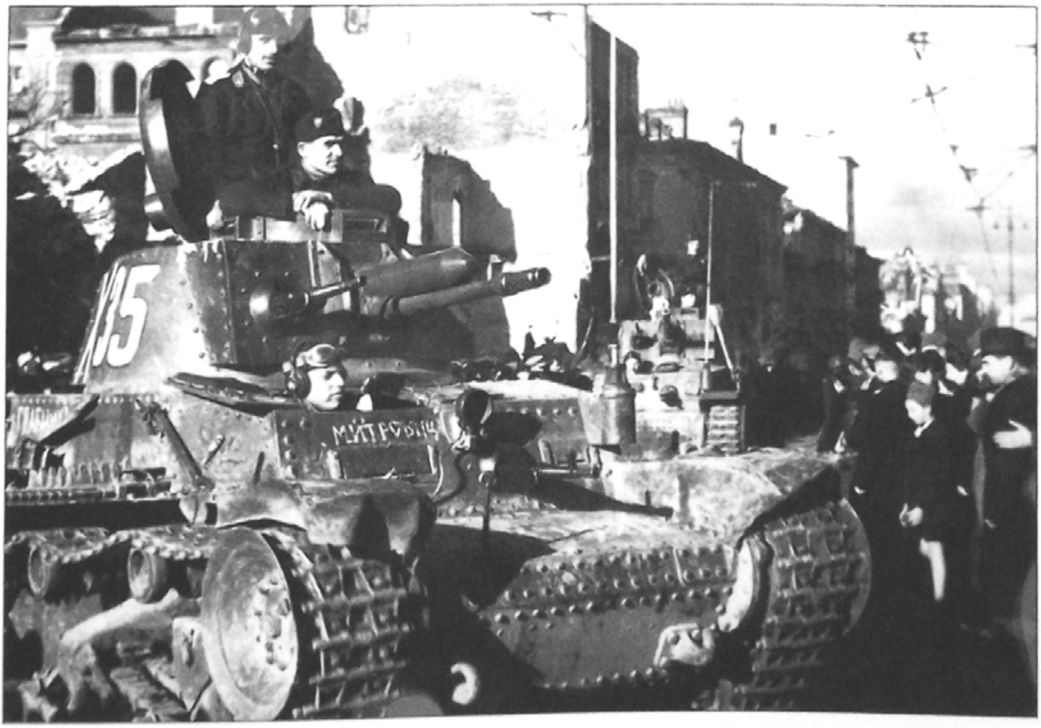
At first glance, these Bulgarian T-11s all seem to be rather non-descript. However, the first three, numbered 55, 56 and 57 are armed with the improved Škoda A-7 37mm gun in the configuration seen when it was installed in the Praga-built LT vz.38; compare these with the earlier Škoda A3 37mm gun mounted on the vehicles numbered 34 and 35. These leichte Panzer were originally built for export to Afghanistan, but Germany's annexation of Czechoslovakia stopped the sale. They were completed and all ten were then sold to Bulgaria. These vehicles are painted in a shade of light olive green and should have a registration plate (with numbers from B60023 to B60058) located on the rear superstructure/hull plate. Note that the commander's all wear a padded helmet modeled after the contemporary Italian design.

A column of Bulgarian T-11s (designated as the Pz.Kpfw.35(t) by Germany and LT vz.35 by the Czechs), pauses in an open field. Before halting, these foliage-camouflaged leichte Panzer have just turned from a line-abreast formation to a column, as their track marks indicate. While the commander of the first T-11 stands watch, a crewman checks the suspension. A total of 36 of these obsolete light tanks were re-conditioned and purchased in two batches from Germany during 1940. They equipped the 3rd Company of the 1st Battalion and the 6th Company of the 2nd Battalion of the Armored Regiment.

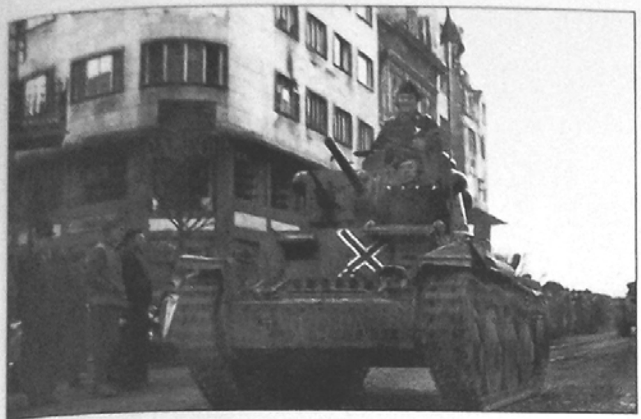
A mixed column of Bulgarian T-11 (Pz.Kpfw.35(t)) and "Praga" (Pz.Kpfw.38(t)) leichte Panzer move along a street on their way to a parade. Note the registration plate on the near vehicle, which consists of black characters (B60024) on a rectangular white plate, on the hull/superstructure rear plate. The rear of the visible turrets have a St. Andrew's Cross crudely applied with white paint, while the overexposed photograph has washed-out whatever markings might have been on the turret sides. It would appear that the "Praga", which is the third furthest vehicle in line, is finished in Dunkelgelb RAL 7028, with the St. Andrew's Cross painted in black on the turret rear plate.



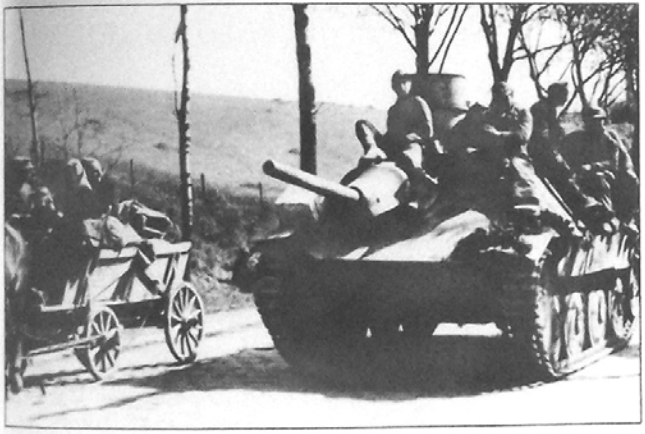
This Bulgarian T-11 is from the first batch of 26 re-conditioned Pz.Kpfw.35(t) sold to them by Germany in 1940. It mounts the more usual Škoda A3 37mm main gun with the recoil cylinder placed outside the mantle and above the gun tube. By the time of this photo (December 1944) the crew wear standard German-style black Panzer crew uniforms with side-caps of a local pattern, having discarded the Italian-style padded helmets. There were very few modifications carried out on these leichte Panzer by the Germans; the most prominent one being the replacement of the original radio antenna with a rod antenna on a flexible base, as seen here at the port-side corner of the superstructure front plate. Note that there is an obscured Tac number on the side of the turret (these ran from 25 to 50 on vehicles armed with this gun, and from 51 to 60 on the second batch with the A-7 gun) and that someone has very neatly applied Cyrillic characters to the bow plate as well as the superstructure sides.



Another Bulgarian T-11 takes part in the same December 1944 parade. This olive green-painted leichter Panzer is marked with a Tac number, 35, in white, on the turret sides, just forward of the St. Andrew's Cross national insignia. Again, very neatly-applied Cyrillic characters have been applied in white, this time on the superstructure front and side plate. It is armed with the Škoda A-3 37mm gun, which makes it part of the first batch of re-conditioned Pz.Kpfw.35(t)s purchased from Germany. Unlike German-designed Panzer, the Škoda-designed LT vz.35 and the Praga-designed LT vz.38 had their drivers positioned on the starboard side; all German Panzer had the driver seated on the port side.

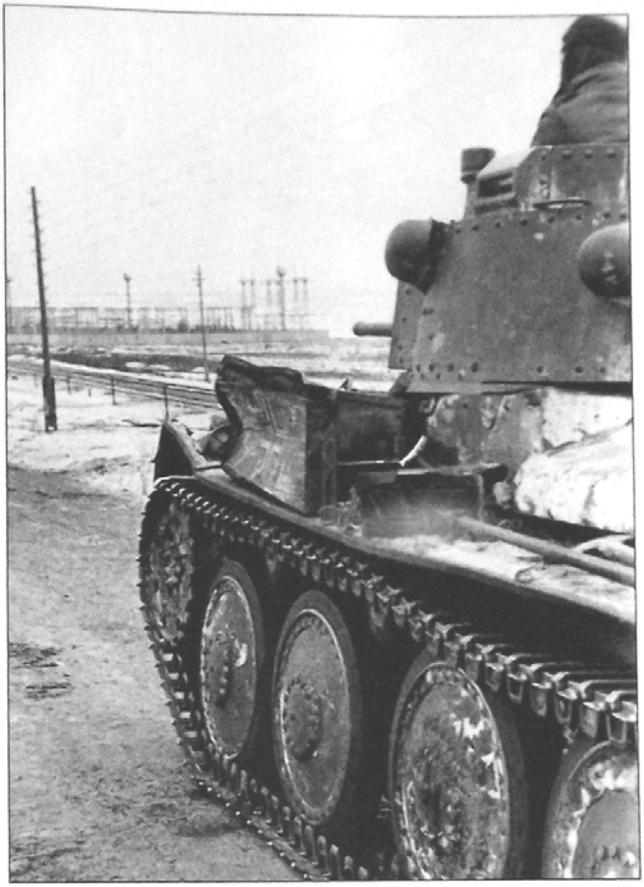


This Bulgarian "Praga" is one of 10 purchased from Germany in 1943. These leichte Panzer received registration numbers in the B60059 to B60068 series. As with the majority of the photographs of Bulgarian Panzer seen in this series of books, this one is pictured at the Sofia parade in December of 1944. It is painted in Dunkelgelb RAL 7028 and carries a rather bold white-outlined, black St. Andrew's Cross on the superstructure front plate. Below it, on the bow plate, the legend "9 Pota" is painted in yellow. The 7.92mm MG37(t) (ZB vz.37) machine gun mount on the superstructure front plate has been removed, and the opening covered with a circular plate, which indicates that this may be a Panzerbefehlswagen (command tank); the configuration of the superstructure front plate itself indicates that this is an Ausf.E, F or G. These vehicles equipped the 9th Company of the 3rd Battalion.

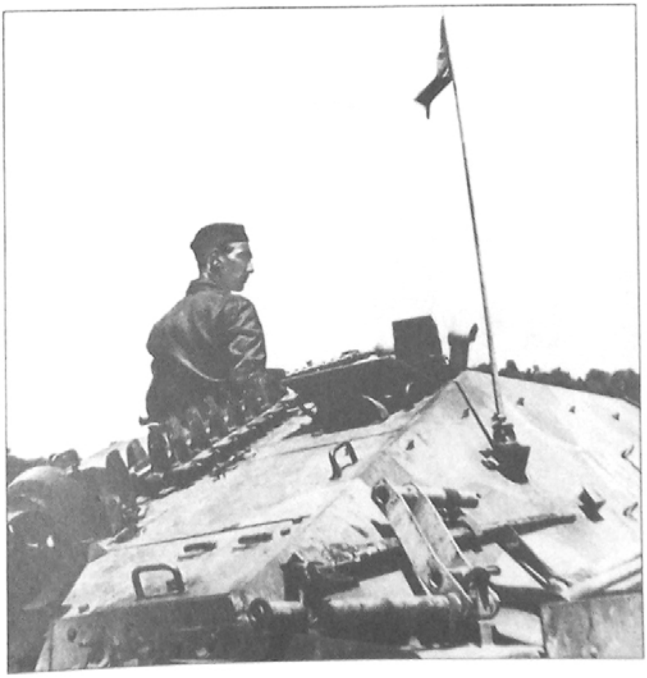


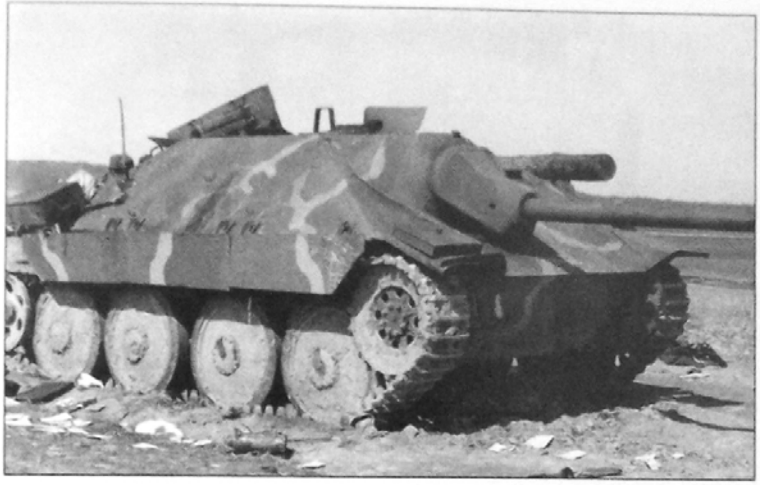
Several German soldiers sit atop this Jagdpanzer 38 as it travels past a horse-drawn supply wagon. This crew apparently does not expect to encounter the enemy, nor for that matter their own supply echelon, if the 200-liter fuel drum on the vehicle's roof is an indicator. From this angle the type of Topfblende (cast, pot-shaped gun mantle) indicates that it is a later production vehicle; it also would appear that the idler wheel is of the later dished type with four holes around its circumference.

A crewman looks off to the side from the hatch of this Panzerjäger 38 7.5cm PaK39 (L/48) (Sd.Kfz.138/2) (one more designation for this diminutive tank destroyer). The perforated cooling jacket for the MG34 can be seen although the rest of the Rundumfeuer (360-degree traverse MG mount) is obscured by the crewman. Other features which make this a late-production vehicle include the Flammvernichter (flame-dampening exhaust) on the rear deck and the loops welded to the superstructure side for the attachment of camouflage material. These are the two large items in the middle; the smaller loops along the upper rim of the superstructure are for securing a foul weather tarp over the leaky roof. Other details include grab handles, hinges, bolt patterns, tools and the rod antenna on the flexible rubber base. The purpose of the device on the fender, nearest the camera, is unknown to this author.

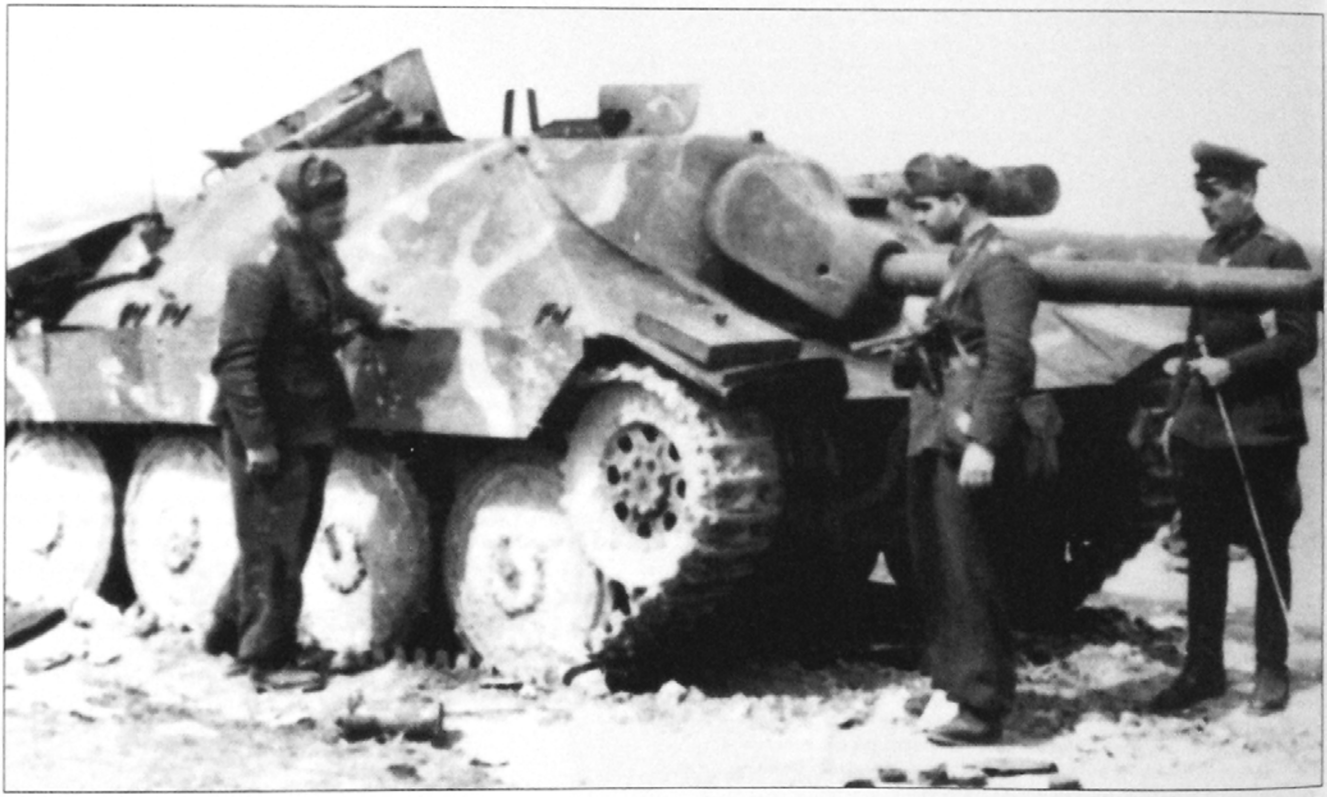


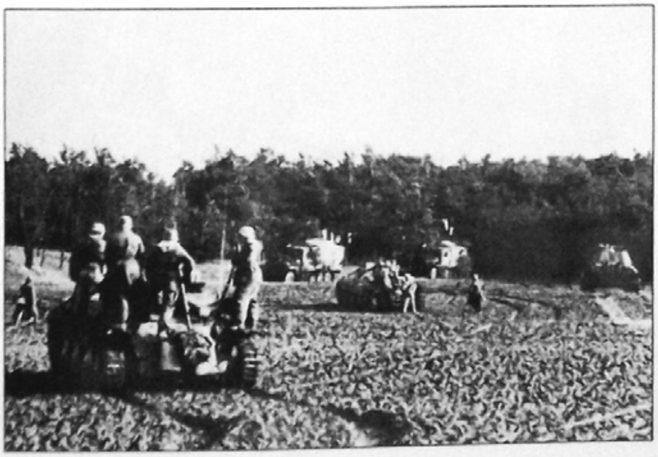
A German Pz.Kpfw.38 (t) makes its way towards what appears to be a Soviet power generation or distribution station, probably during the winter of 1941-42. Approximately 625 of these reliable, if obsolescent leichte Panzer were committed to Operation Barbarossa in June of 1941. The only marking of note is a white-outline Balkenkreuz national insignia on the damaged fender-mounted stowage locker. Sharp-eyed modelers will note the pattern, as well as the differing sizes, of the rivets on the lower side of the turret.



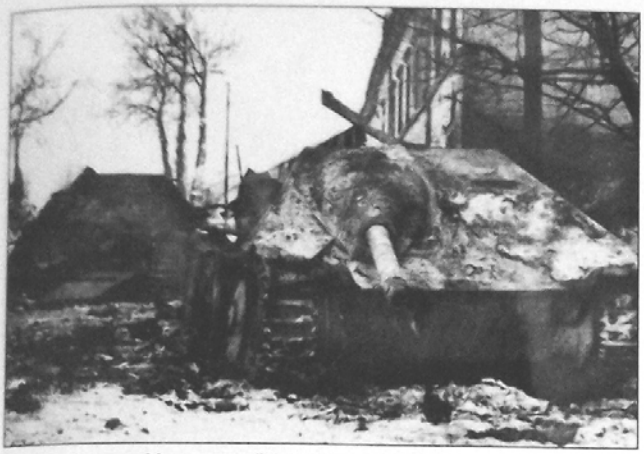


This pair of similar photographs depict the same late-production Jagdpanzer 38. In the first photograph several details peculiar to this type can be seen. Now, the dished idler wheel has six holes around its circumference (instead of four seen in the previous photograph), and the sheet metal shield over the driver's periscopes can just be seen past the late cast Topfblende (pot-shaped gun mantle). Close examination will reveal the late style of camouflage which had hand-applied bands of Olivgrün RAL 6003 and Dunkelgelb RAL 7028 over the Rot RAL 8012 primer. Note the stowage of a log for "un-ditching" (self-extraction from ditches, riverbanks or trenches) on the far side of this Jagdpanzer, as well as the box on the near-side rear fender. In abandoning the vehicle, the crew has removed the MG34 from the roof-mounted Rundumfeuer (360-degree traverse MG mount). In the second photograph the derelict vehicle is inspected by what appear to be Hungarian troops.

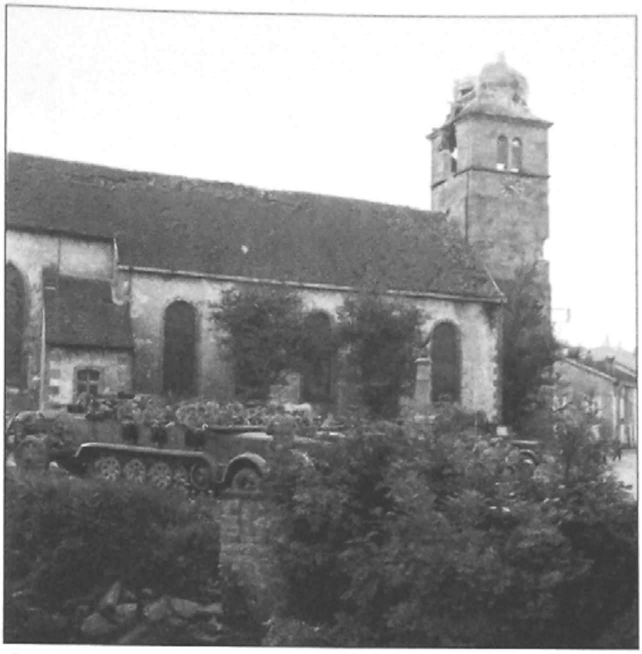




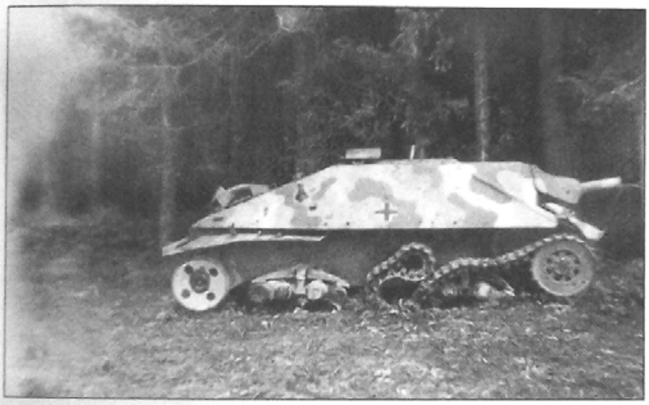
A pair of Jagdpanzer 38s advance across a muddy field in the company of a Pz.Kpfw.V Panther medium tank. The nearest Jagdpanzer 38 is identified as a late-production vehicle by its Flammvernichter (flame-dampening) exhaust muffler, seen on the engine deck between two of the hitch-hiking troops. This particular Jagdpanzer was designed, produced and fielded as a result of an interruption in StuG.III Ausf.G production due to an Allied air raid on the Alkett plant on November 26, 1943. Eventually about 2,650 of this "stop-gap" vehicle were produced for the German Wehrmacht. Post war, they saw service in the Czech army as the ST-1 and with the Swedish army as the Pzj. G-13.



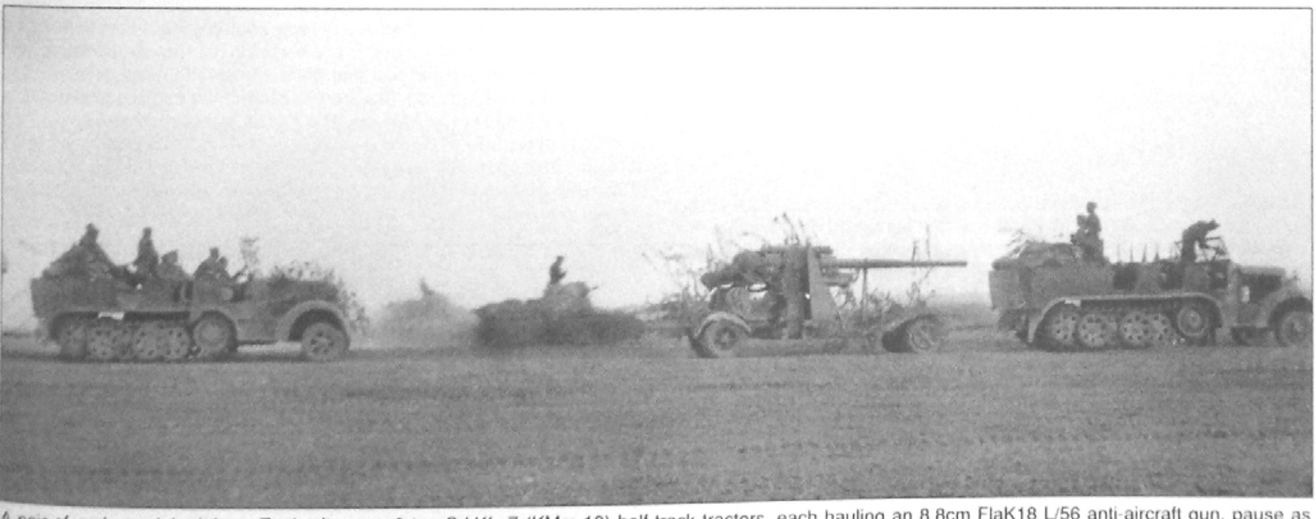
The Jagdpanzer 38 was very lightly armored, consisting of a 60mm glacis plate and 20mm superstructure sides; the latter only providing protection against 7.92mm armor-piercing rifle or machine-gun rounds. It was also quite cramped for its four-man crew, while the gun's traverse was limited to an arc of only 16-degrees. But, it was superior to a towed anti-tank gun such as a 7.5cm PaK40 because it was more mobile and better protected. This particular vehicle, a late-production version (and its companion in the background) has been torn apart by enemy action; note the missing superstructure sides and the twisted-upwards roof plate. Late-production features include the type of cast Topfblende (pot mantle) and the cover over the driver's periscope opening.



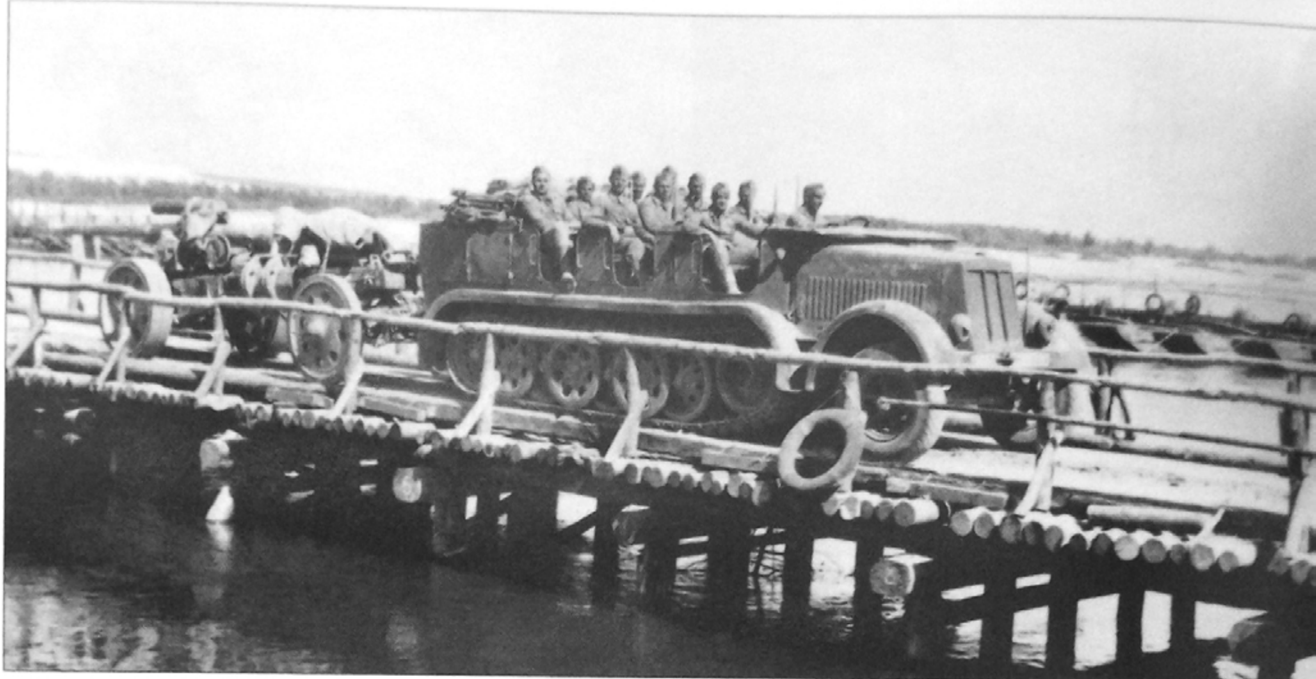
By comparing the suspension and fender configuration of the later KMm-11, seen here, to that of the KMm-10 in the previous photograph, the differences between these variants of the Sd.Kfz.7 are readily apparent. The KMm-11 has one more road-wheel and the associated longer track run, while the contours of the front fender are quite different, especially where it curves down and rearwards. This tractor is hauling either a 10cm s.K18 gun or a 15cm s.FH18 howitzer.



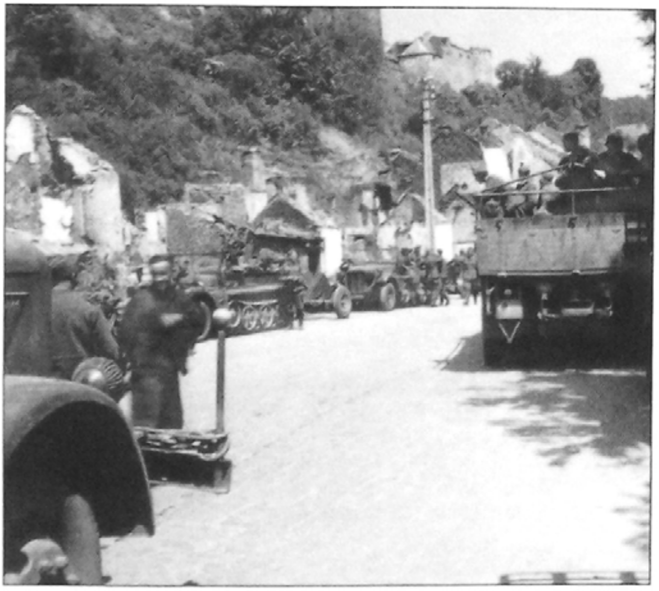
This derelict late-production Jagdpanzer 38 sports a factory-applied camouflage most closely associated with vehicles that came from the Škoda manufacturing plant. The hand-applied hard-edged pattern consists of Dunkelgelb RAL 7028 and Olivgrün RAL 6003 applied over a Rot RAL 8012 primer base coat. Note also the black/white Balkenkreuz national insignia painted quite low on the superstructure side plate. The road wheels are nowhere to be seen, while the idler wheel is the dished style with four holes and the drive sprocket has no holes near its rim. The vehicle also has the late production Flammvernichter (flame-dampening) exhaust muffler and cast Topfblende (pot mantle); the gun tube has been run completely back.



A pair of early-model mittlerer Zugkraftwagen 8-ton Sd.Kfz.7 (KMm-10) half-track tractors, each hauling an 8.8cm FlaK18 L/56 anti-aircraft gun, pause as some speeding Pz.Kpfw.I Ausf.Bs raise a cloud of dust behind them. The earlier design of these tractors is apparent by the size of their front wheels and tires (7.50x20 versus 9.75x20 of the later type), configuration of the front fenders and the shorter track run (one less road-wheel pair, versus later models). The FlaK18 is identified as such by the Sd.Ah.201 limbers and the Kreuzlafette (cruciform mount) with circular pads on the folding arms. The Pz.Kpfw.I Ausf.B is identified by the longer hull in this early (or pre-) war photograph.

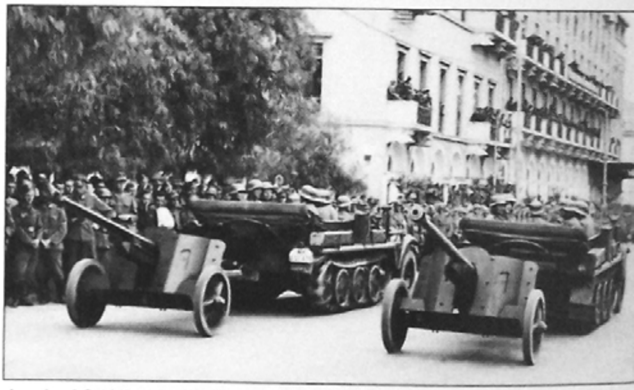


A KMm-11 version of the Sd.Kfz.7 hauls a 10cm s.K18 gun across a bridge constructed over a Soviet river. The tractor is again identified as the later versio by the lengthened track run and fender, different front fender configuration, and size of the front wheel and tire. The ordnance is a 10cm piece; note the sti impressive length of the gun tube, although it has been retracted rear-wards to shift the center of gravity and shorten its overall length for easie transportation.

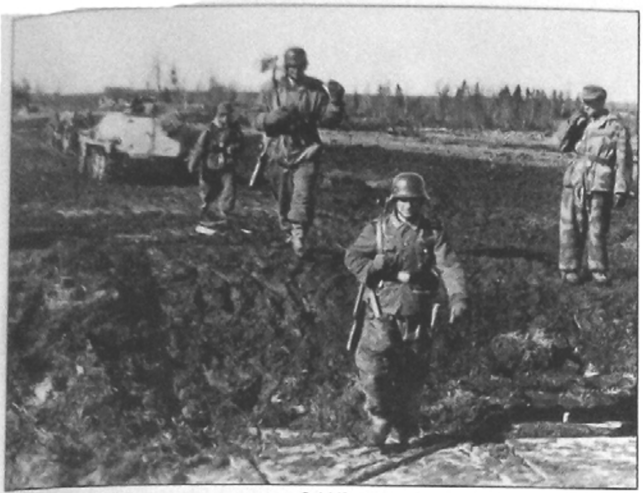


Parts of a Batterie of 3.7cm PaK35/36 anti-tank guns, hitched to their leichte Zugkraftwagen 1-ton Sd.Kfz.10s, pause in a town on their way into battle. Note how the breech-ends of the PaK have been protected against the elements with a fitted canvas cover. The tractors have the earlier style of road-wheels with larger cut-outs, but are otherwise unremarkable.

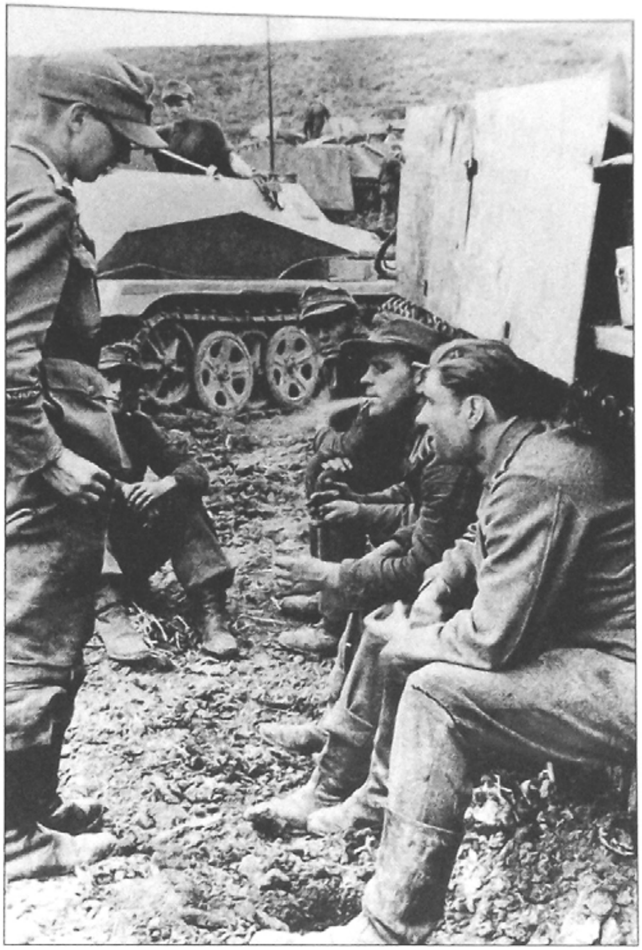
A pair of Sd.Kfz.10s joins a group of mittlere Schützenpanzerwageen Sd.Kfz.251s (Ausf.A or Ausf.B), as well as other AFVs as they await the order to advance. Note the stowage of jerry cans on the near Sd.Kfz.10, which includes both the early pattern (with the embossed "X") and the later pattern with the square in the center of the "X".



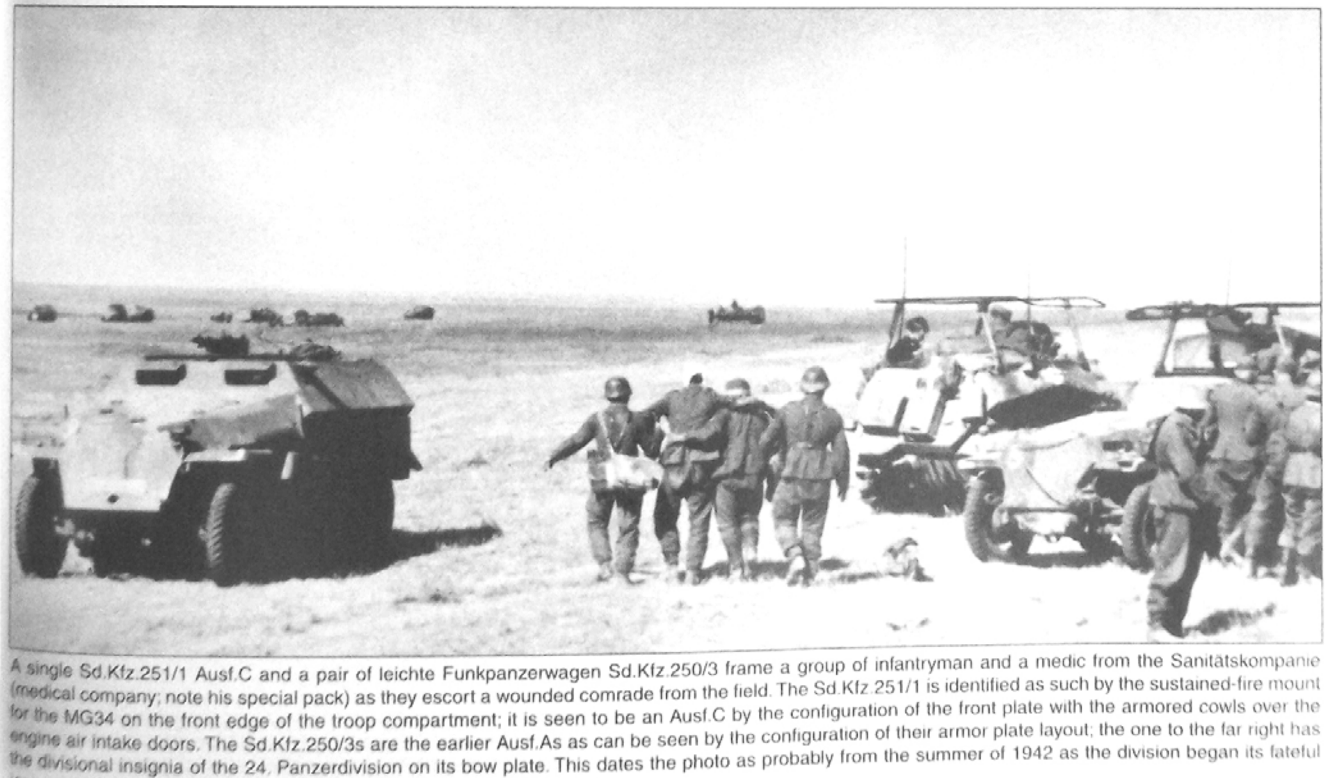
A pair of Sd.Kfz.10s takes part in a parade, each hauling a 5cm PaK38 L/60 anti-tank gun. Note how the troops are seated in the rear compartment, with their backs to the outside, and that there are several metal boxes of 5cm ammunition and a jerry can strapped to each of the tractor's fenders. They also have the earlier road-wheels. The PaK is identified as the 5cm by the curved configuration of the gun's shields as well as the peculiar style of the muzzle brake (there are no flaring edges around the baffles); at a distance it is easily confused with the larger 7.5cm PaK40 L/46, especially if only the wheels are visible.



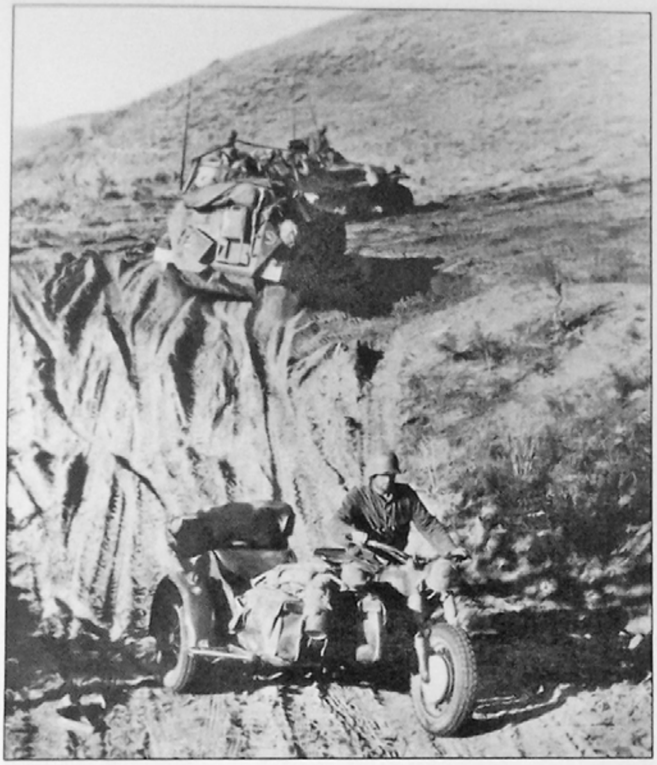
A leichter Schützenpanzerwagen Sd.Kfz.250 stands idle in a field as German troops pass on their way to their next assignment. The halftrack has no discernable features, which would say what sub-type it is; all that can be seen is that it is the earlier Ausf.A because there are no lockers integral with the fenders. The soldiers are wearing various combinations of the M1942 reversible, padded two-piece winter suit with the Heeres (Army) style of camouflage pattern; the breast eagle on the man down in the ditch also is the type worn by members of the Heer.

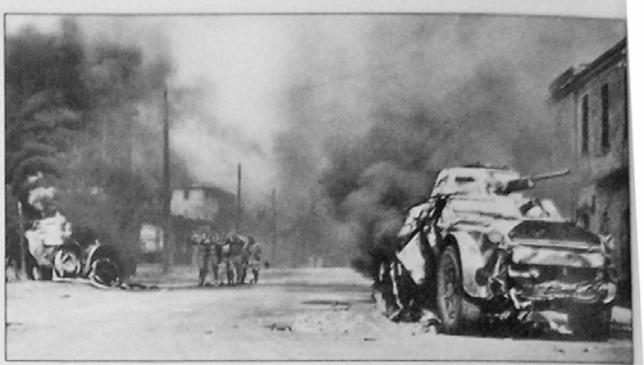


Several members of a Sturmgeschützabteilung relax and have a cigarette, the strain of battle still apparent on their faces. In the center of the photograph is an Sd.Kfz.250 Ausf.A; it has no features visible that would aid in determining its sub-type. The far Sturmgeschütz III is an Ausf.G as can be seen by the configuration of its superstructure; the near one is probably an Ausf.G as well, but no identifying features are readily visible. The soldier at left has a partly obscured cuff-band on his right sleeve; as other uniform details point to these men as being members of the Heer (Army), it can be surmised that they are members of the Großdeutschland Panzergrenadierdivision, which since it was considered to be an elite formation, had this distinction.



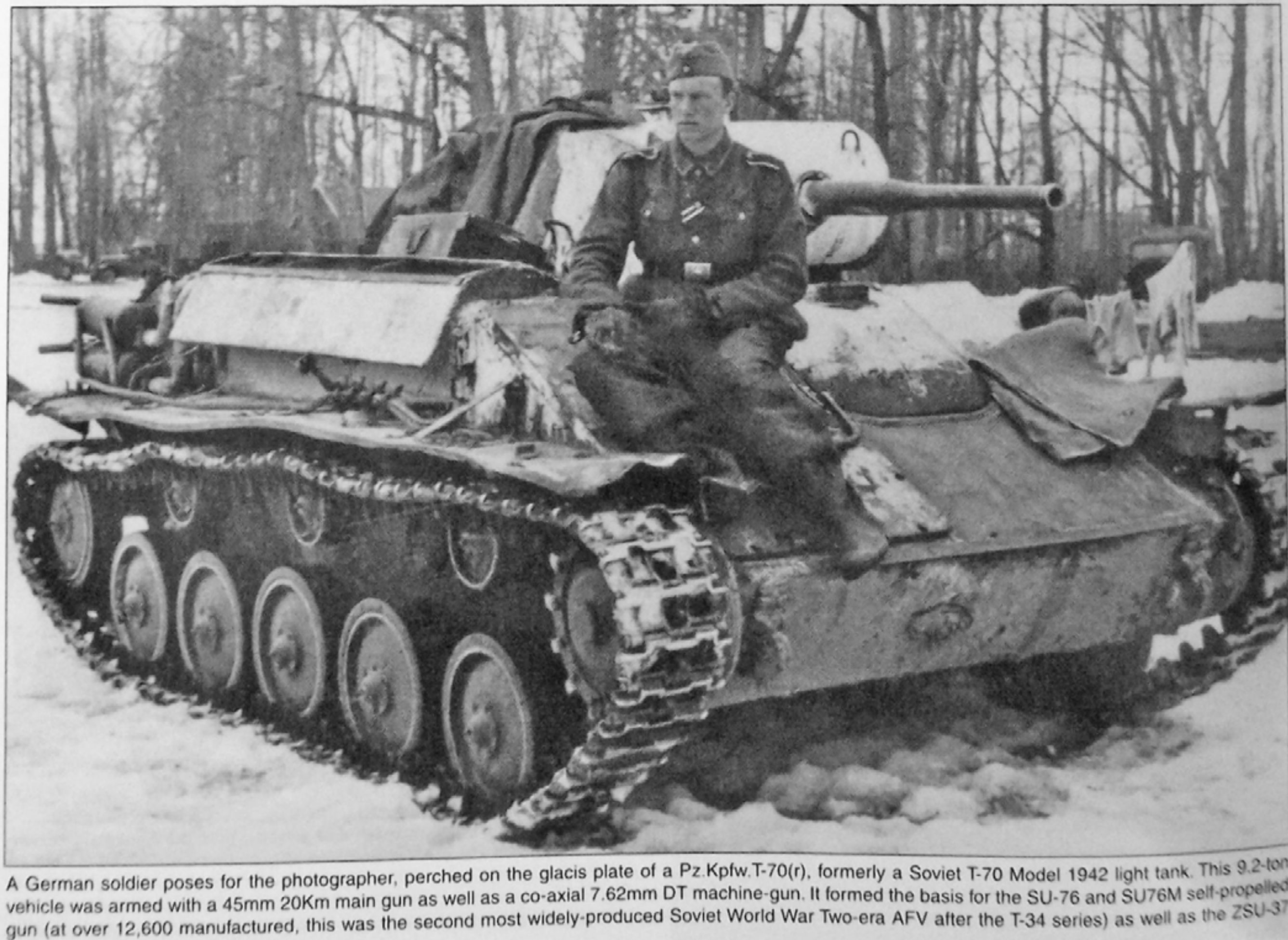
A single Sd.Kfz.251/1 Ausf.C and a pair of leichte Funkpanzerwagen Sd.Kfz.250/3 frame a group of infantryman and a medic from the Sanitätskompanie (medical company; note his special pack) as they escort a wounded comrade from the field. The Sd.Kfz.251/1 is identified as such by the sustained-fire mount for the MG34 on the front edge of the troop compartment; it is seen to be an Ausf.C by the configuration of the front plate with the armored cowls over the engine air intake doors. The Sd.Kfz.250/3s are the earlier Ausf.As as can be seen by the configuration of their armor plate layout; the one to the far right has the divisional insignia of the 24. Panzerdivision on its bow plate. This dates the photo as probably from the summer of 1942 as the division began its fateful journey to Stalingrad, and its destruction.



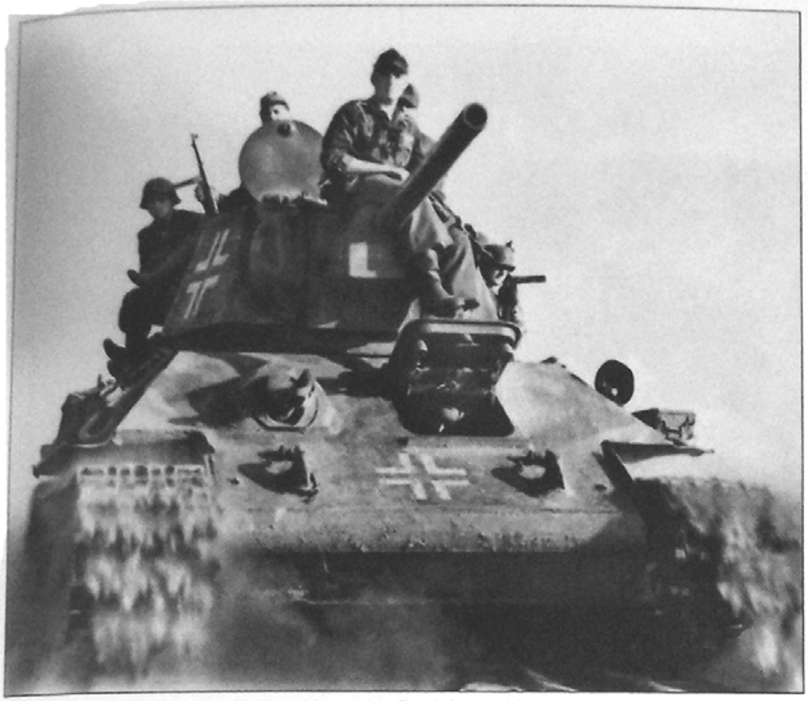


A pair of Panzerspähwagen AB41 201 (i) (formerly Italian AB-41 armored cars) burns with great intensity, as a group of prisoners are marched past. Numbers of these effective reconnaissance vehicles were confiscated after Italy repudiated their alliance with Germany. They were put to almost immediate use, particularly with Waffen-SS and Ordnungspolizei units. Manufactured by Fiat, they were armed with a Breda 2cm M35(i) auto-cannon and two 8mm MG38(i) machine-guns.

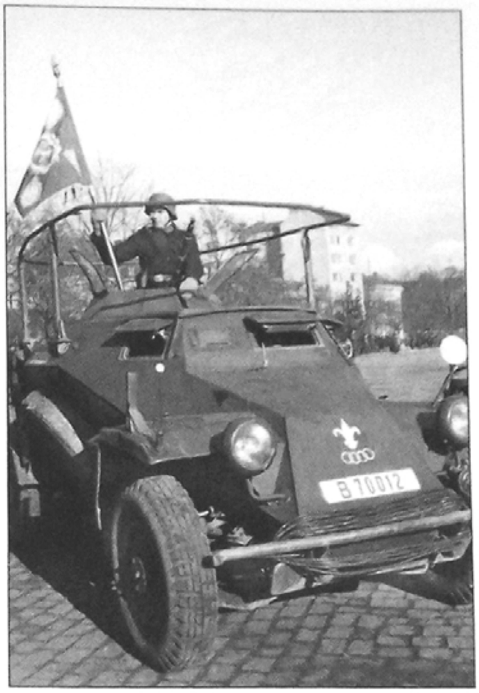
Another leichter Funkpanzerwagen Sd.Kfz.250/3 from the 24. Panzerdivision tops a sandy rise, while a heavy motorcycle combination travels in the opposite direction on the Ostfront, probably during the summer of 1942; there is a second '250-series halftrack just in front of it. This is an Ausf.A version of this half-track as can be seen by the early or Alte (old) body style; the Rahmenantenne (frame antenna) attached to the superstructure identifies it as a /3. All of these vehicles are typically inundated with stowage items, including the motorcycle, which is also missing its front fender.



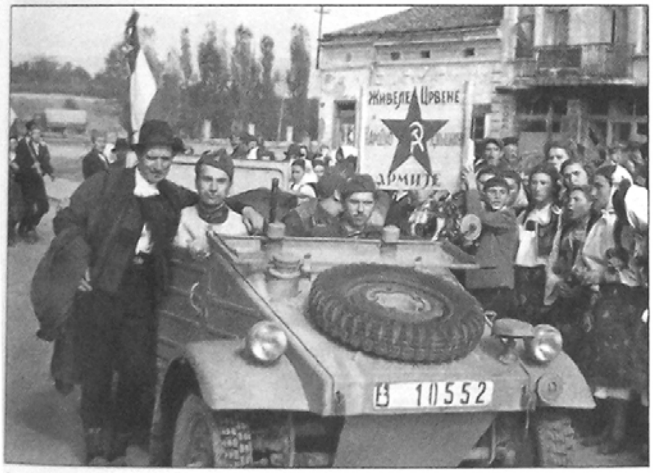
A German soldier poses for the photographer, perched on the glacis plate of a Pz.Kpfw.T-70(r), formerly a Soviet T-70 Model 1942 light tank. This 9.2-ton vehicle was armed with a 45mm 20Km main gun as well as a co-axial 7.62mm DT machine-gun. It formed the basis for the SU-76 and SU76M self-propelled gun (at over 12,600 manufactured, this was the second most widely-produced Soviet World War Two-era AFV after the T-34 series) as well as the ZSU-37 self-propelled 37mm anti-aircraft gun.



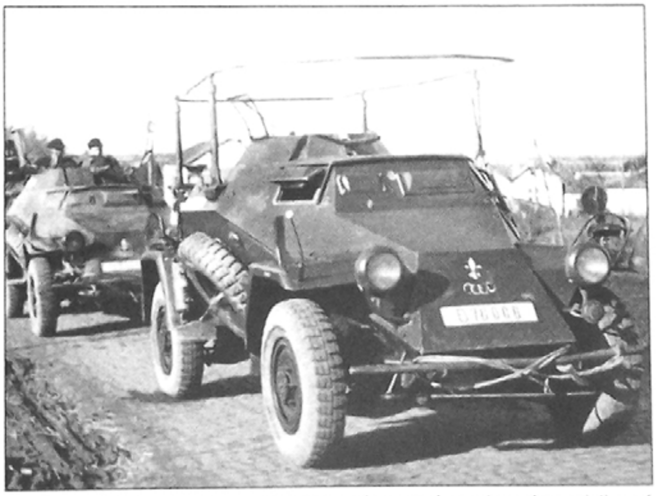
A group of German soldiers hitch a ride on this Pz.Kpfw.747(r), which was a captured ex-Soviet T-34/76 Model 1942. This Beutepanzer (captured, or "booty" tank) was frequently used against its former owners, particularly by the Waffen-SS and the Ordnungspolizei. This particular variation has a turret with features associated with the Zavod 183 tank manufacturing plant, as well as hull features introduced in 1942 such as: new driver's hatch and periscope lay-out, modified DT machine-gun mount with an external mantle, "hammerhead"-style tow shackles and head-lamp relocated from the glacis to the port side of the superstructure plate. It has been re-painted to German standards with a base coat of Dunkelgelb RAL 7028, with possibly both supplementary colors (Olivgrün RAL 6003 and Rotbraun RAL 8017) over-sprayed in broad, indistinct blotches. Large, white-outline Balkenkreuz national insignia have been painted on the glacis and forward sides of the turret. It would not be unusual to see these repeated on the superstructure rear plate, turret rear and roof.



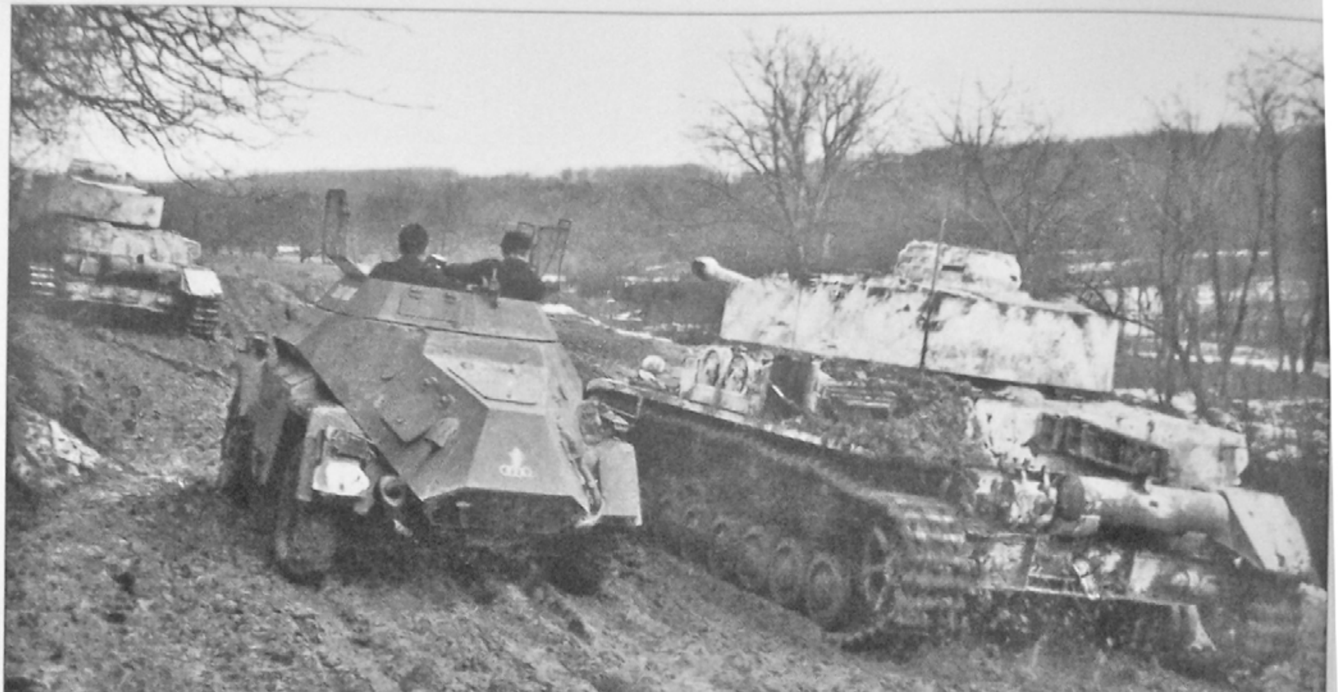
This Bulgarian M-223 (Sd.Kfz.223 Ausf.B) stands ready, with its unit standard un-furled, to take part in a parade. A number of details can be clearly seen, including the way in which the head-lamps attach to the lower corner of the superstructure side plate and how the Notek black-out driving head-lamp is protected by a brush guard. Note the white-painted balls on the driver's vehicle width indicator stems and the small towers behind them that held the turning signal indicators; there is also a peculiar "L"-shaped wire stem just behind the near conventional head-lamp, whose function is unknown.

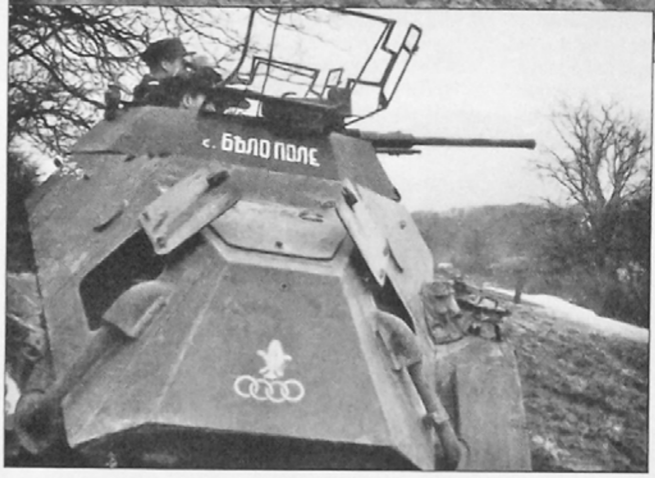


In a photograph obviously taken after the Bulgarian switch-over from being allied with Germany, the occupants of a Volkswagen Typ 82 Kübelwagen (bucket car) pose with local inhabitants. Just as in a typical German unit, these cars would be used as scout and liaison vehicles. Sources indicate that this is a post-February 1943 production version due to the style of the wing-mirror and the ribs under the spare tire. This light field car is painted in overall Dunkelgelb RAL 7028 and has the usual style of registration plate (B10552), seen here on the nose of the vehicle. The main head-lamps do not have any slotted black-out driving covers and there is a standard Notek head-lamp on the lower corner of the hood. Below it is a horn. Behind the spare wheel and tire is the fuel filler cap; the two devices on the bottom edge of the folded down wind-screen are the motors for the wiper blades.

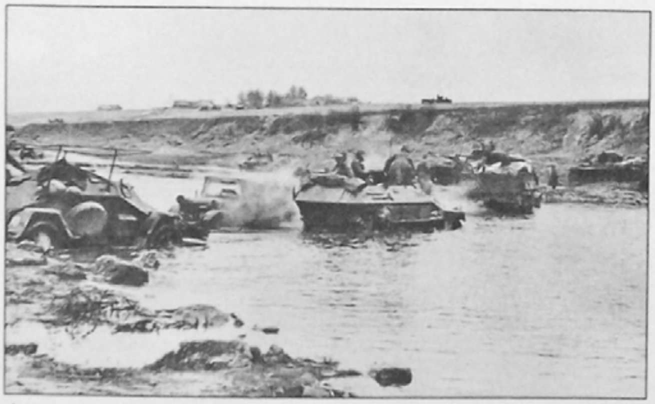


A column of Bulgarian Panzerspähwagen (armored scout cars) consisting of a pair of M-223s (Sd.Kfz.223 Ausf.B), and a single M-222 (Sd.Kfz. 222 Ausf.B), from the Armored Brigade's Reconnaissance Company pause on a rural road. Bulgaria received a total of 20 of these effective scout vehicles. Their registration plate numbers ran from B70001-70020 (the first M-223 is numbered B70008). These vehicles are painted in olive green and are marked with a Fleur-de-Lyse insignia as well as four interlocked rings above the registration plate. These are in turn located in at least three places: the front and both sides of the superstructure (and probably on the rear plate as well). These light armored scout cars are Ausf.Bs as can be seen by the later style of visors covering all of the vision blocks.

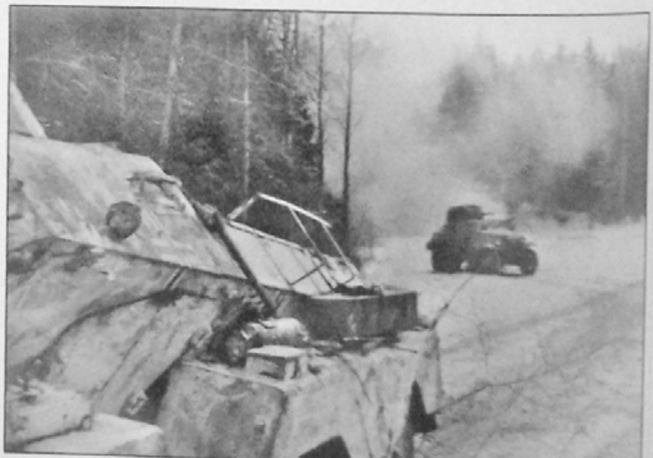




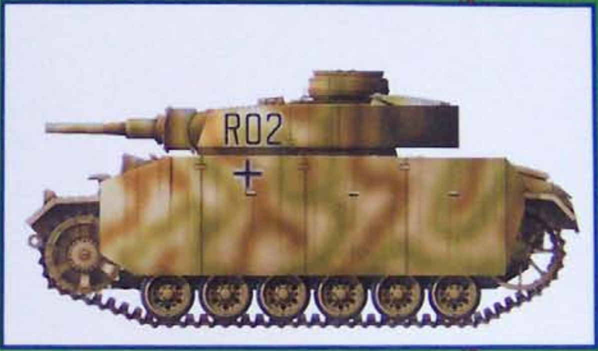
This pair of photos depicts a Bulgarian M-222 (Sd.Kfz.222 Ausf.B) as it first threads its way between a pair of Maybach T-IV G/H (Pz.Kpfw.IV Ausf.G/H), and then stops to make an observation, on a mud-encrusted road. It appears that this leichter Panzerspähwagen is less extensively marked, as evidenced by these photographs; there are no registration plates, Fleur-de-Lyse or interlocked rings on the superstructure side plates and no registration plate on the rear. This M-222 has a mount for a rod antenna, which itself is not fitted, indicating that these particular vehicles may not have been equipped with a radio. Initially, German leichte Panzerspähwagen Sd.Kfz.222 were not all equipped with radios either, so there is a precedent. In the second photograph, a close-up of the vehicle shows a clear view of the inscription on the turret side; the crew has also opened the side access doors to the engine compartment in order to better cool the power plant inside.

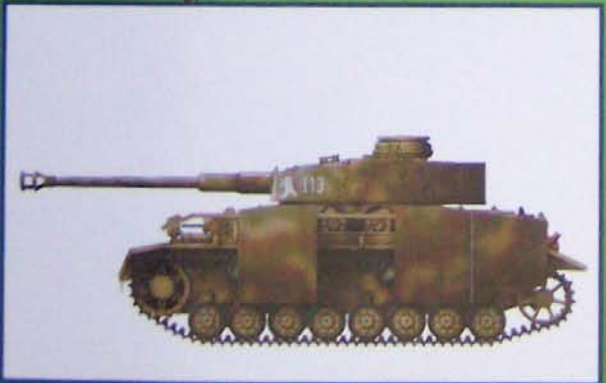


A group of armored cars and half-tracks cross a river somewhere on the Ostfront. The nearest vehicle appears to be a kleiner Panzerfunkwagen Sd.Kfz.261; note the Rahmenantennga (frame antenna) and the contours of what is probably the anti-grenade screen on the forward roof of the superstructure, covered in stowage. The next vehicle is an Sd.Kfz.251/1 Ausf.A; it has the early body style associated with the Ausf.A and Ausf.B, but also has the extra view-port flaps on the superstructure sides, seen only on the Ausf.A.



A German schwerer Panzerspähwagen Sd.Kfz.231 (8-Rad) speeds past a knocked-out and burning Soviet BA-10M armored car. This is an earlier version as evidenced by the style of view port covers on this heavy reconnaissance car. Note the rack, made from thin metal strips, probably for the stowage of jerry cans that has been welded to the superstructure side plate. The vehicle has been roughly white-washed and shows a thin black/white Balkenkreuz national insignia as the only visible marking.





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